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IMPERIAL

Roofing Tiles



Manufactured by
LUDOWICI-CELADON COMPANY • CHICAGO
104 SOUTH MICHIGAN AVENUE

Branch Offices:

NEW YORK 565 Fifth Avenue	CLEVELAND 1836 Euclid Avenue
WASHINGTON 738 15th Street, N. W.	SAINT LOUIS 700 Chestnut Street
PITTSBURGH 355 Fifth Avenue	KANSAS CITY 214-A East 10th Street
PHILADELPHIA 1315 Walnut Street	CINCINNATI 431 Main Street

Factories:

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PERU, KANSAS	

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LUDOWICI-CELADON
COMPANY
Chicago

CCV 1860

 HIS BOOK is offered as a suggestion to the Architect in the consideration of our material and to assist the roofer in its application. As hard burned roofing tile varies slightly in size according to shade, average sizes are shown.

Treatments shown are those generally used. If type of construction in which you are interested is not illustrated, we will be pleased to submit supplementary details on request.

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SPECIAL FITTINGS SHOWN ON PAGES 49 TO 54 INCLUSIVE

"IMPERIAL" SPANISH TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" Spanish Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Closed Valley to be cut and closed to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped $2\frac{1}{2}$ " horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge and 1" x 2" strips for End Bands. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with $\frac{1}{4}$ " edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under

tile not less than 4" and turn up edge $1\frac{1}{2}$ ". At lower side of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with $1\frac{1}{2}$ " copper nails. Where tile joins hip stringer, make a thoroughly waterproof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with $2\frac{1}{2}$ " copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

Average exposure $8\frac{1}{4}$ " width by $10\frac{1}{4}$ " length.
Weight per square, including average fittings, 1050 lbs
Average pieces per square, 171.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
No. 102 Hip Roll.....	8	No. 206 Closed Ridge End.....	9
No. 152 Hip Starter.....	8	Plain Terminal 2H and 1R.....	9
No. 206 Ridge.....	8	No. 405 Terminal 2H and 1R.....	10
No. 206 Cut-off Ridge.....	9	No. 406 Gable Terminal.....	10
No. 206 Deck Mould-Raised Flange.....	9	Other fittings.....	7 & 8

KEY TO MATERIALS



Details of construction shown on pages 11, 12 and 13.

"IMPERIAL" SPANISH TILE AND FITTINGS



Plan



Perspective



End

END BAND OR HALF TILE



Perspective



End

EAVE CLOSURE



Perspective



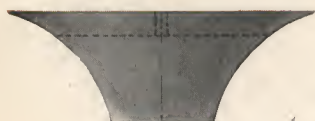
Section



Front



TOP FIXTURE



Front



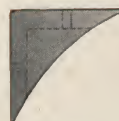
Section



Perspective



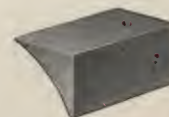
GABLE RAKE TOP



Front



Side



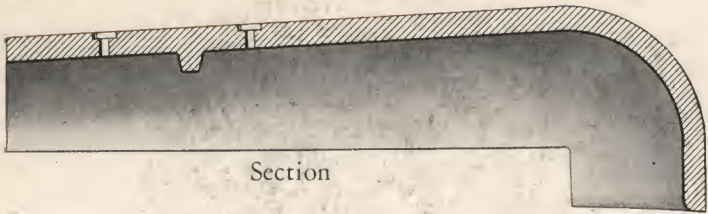
Perspective

For other fittings see pages 6, 8, 9 and 10.

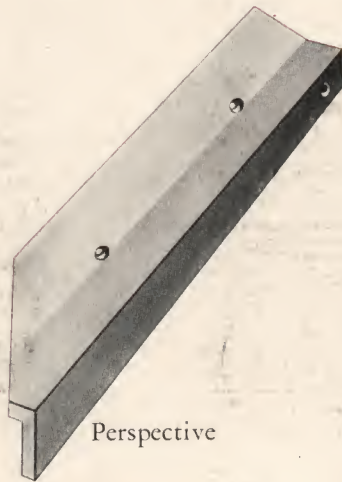
SCALE 3"=1' 0"

"IMPERIAL" SPANISH TILE FITTINGS

No. 152 HIP STARTER

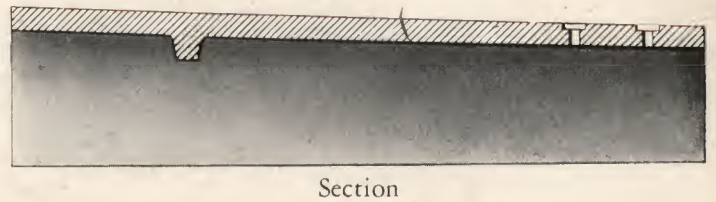


DETACHED GABLE RAKE—RIGHT

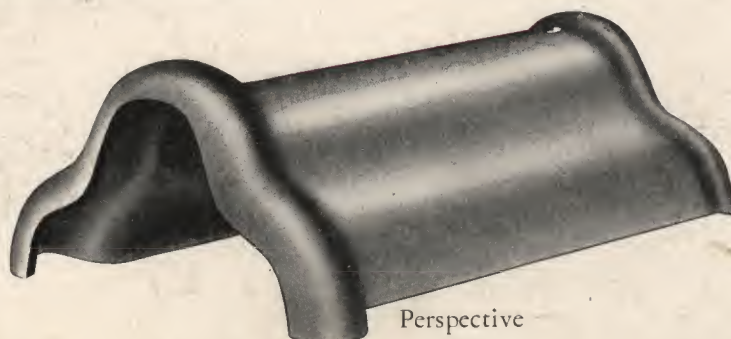
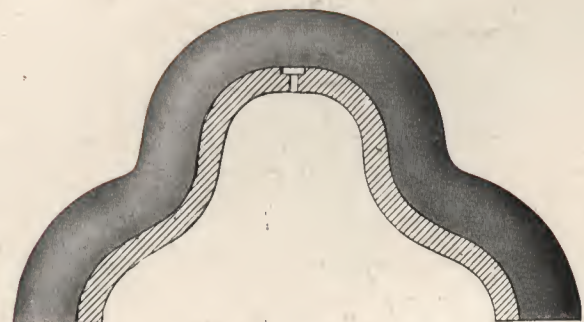
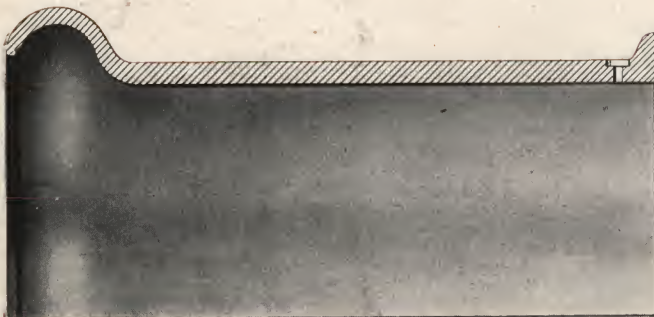


A right is used on right side of roof from the viewpoint of one facing the eave.

No. 102 HIP ROLL



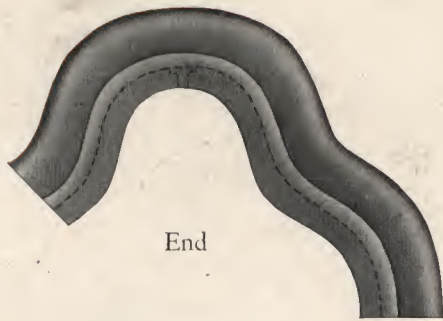
No. 206 RIDGE



SCALE 3"=1' 0"

"IMPERIAL" SPANISH TILE FITTINGS

No. 206 CUT-OFF RIDGE



End

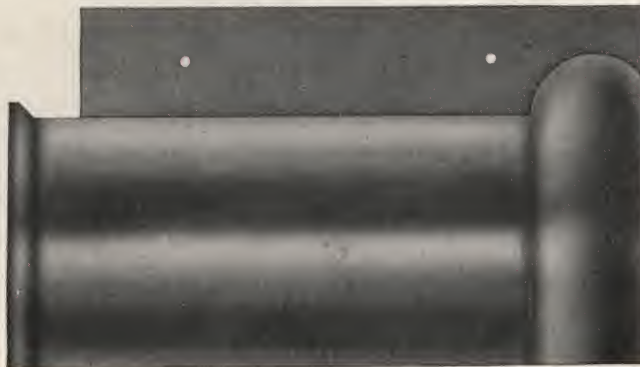


Perspective

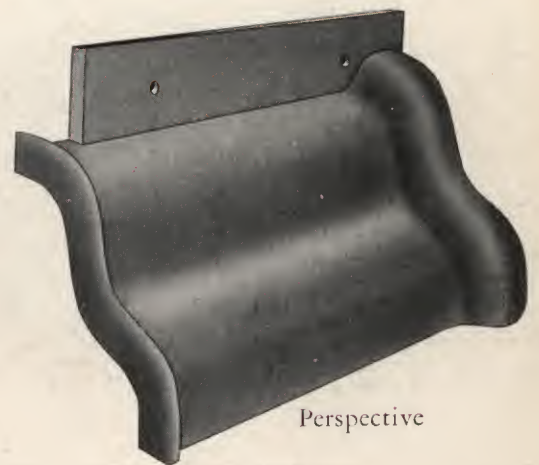
No. 206 DECK MOULD-RAISED FLANGE



End



Side



Perspective

No. 206 CLOSED RIDGE END—STARTER

A starter has a bead on open end as on small end of Ridge.



End



Perspective

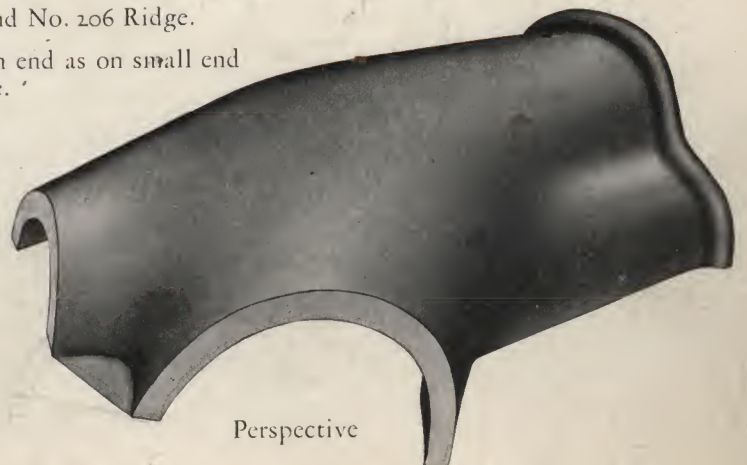
PLAIN TERMINAL 2H and 1R—STARTER

For No. 102 Hip Roll and No. 206 Ridge.

A starter has a bead on open end as on small end of Ridge.



End



Perspective

SCALE 3"=1' 0"

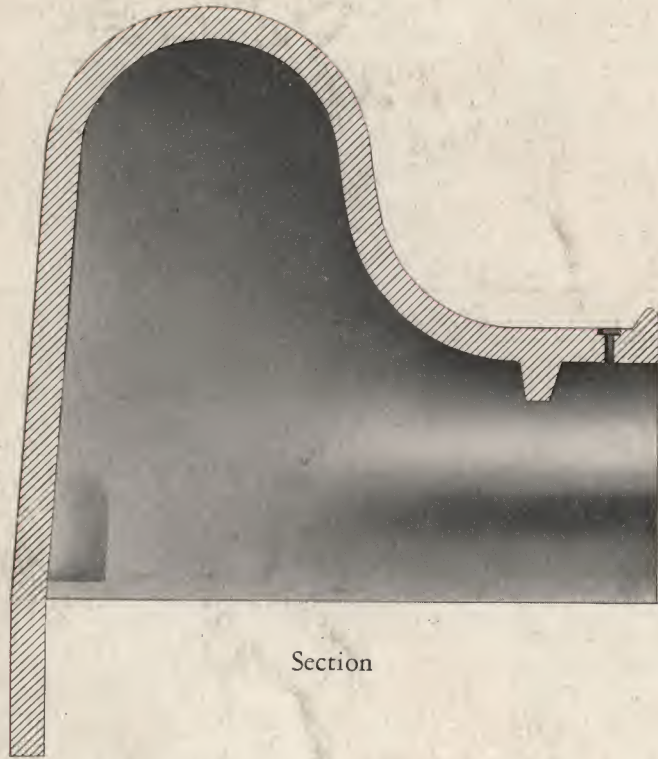
"IMPERIAL" SPANISH TILE FITTINGS

No. 406 GABLE TERMINAL—STARTER

For No. 206 Ridge.

A starter has a bead on open end
as on small end of Ridge.

Lower bump Terminal
furnished if
desired.



Section



Perspective

No. 405 TERMINAL 2H and 1R—STARTER

For No. 102 Hip Roll and No. 206 Ridge.

A starter has a bead on open end
as on small end of Ridge.

Lower bump Terminal
furnished if
desired.



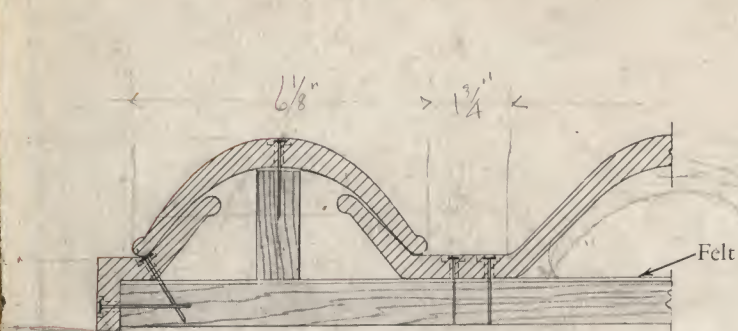
End



Perspective

SCALE 3"=1' 0"

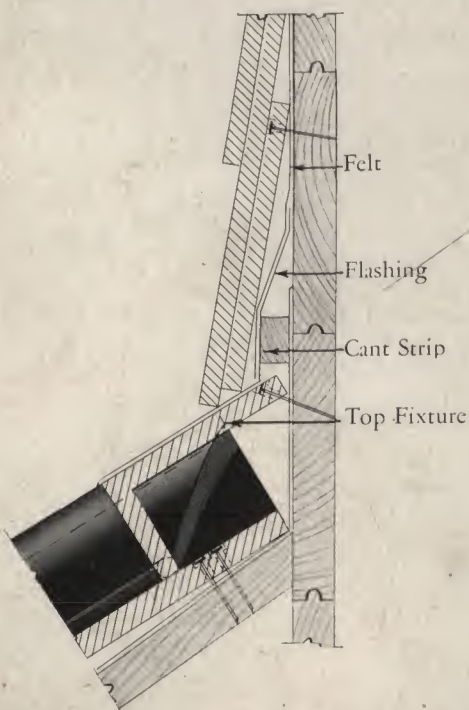
DETAILS OF "IMPERIAL" SPANISH TILE AND FITTINGS



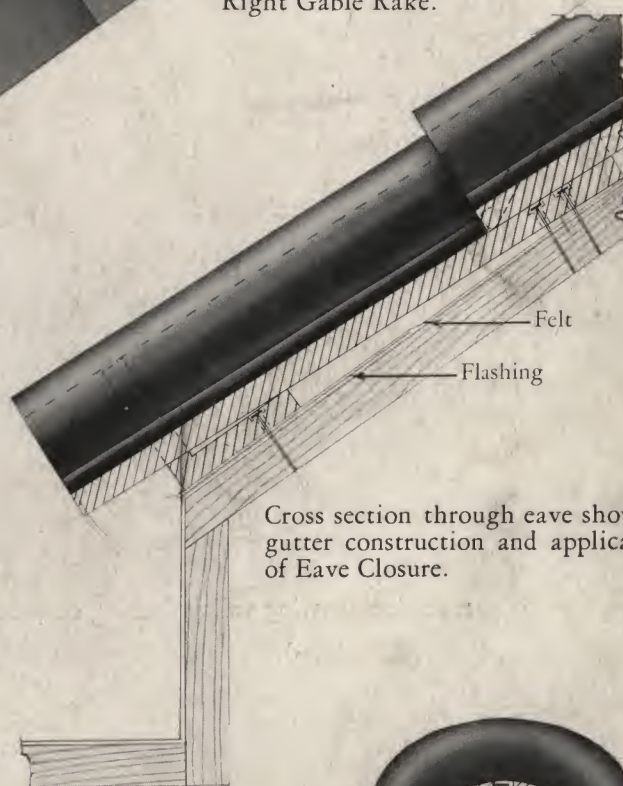
Longitudinal section through roof showing Left Gable Rake and End Band.



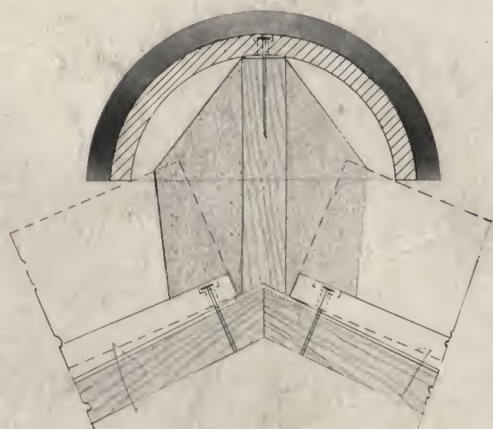
Side elevation showing Right Gable Rake.



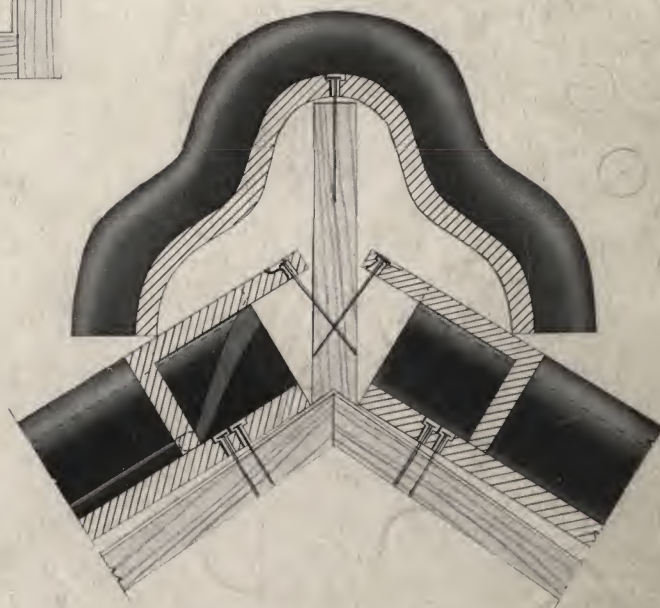
Cross section through roof showing flashing in connection with $\frac{3}{8}$ " Flat Shingle Tile.



Cross section through eave showing gutter construction and application of Eave Closure.



Cross section through hip showing application of No. 102 Hip Roll and pointing of Cut Hips with elastic cement.

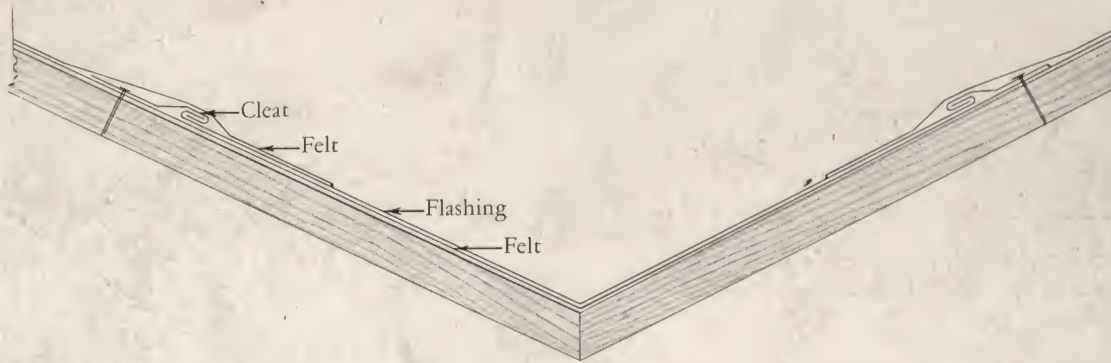


Cross section through ridge showing application of No. 206 Ridge.

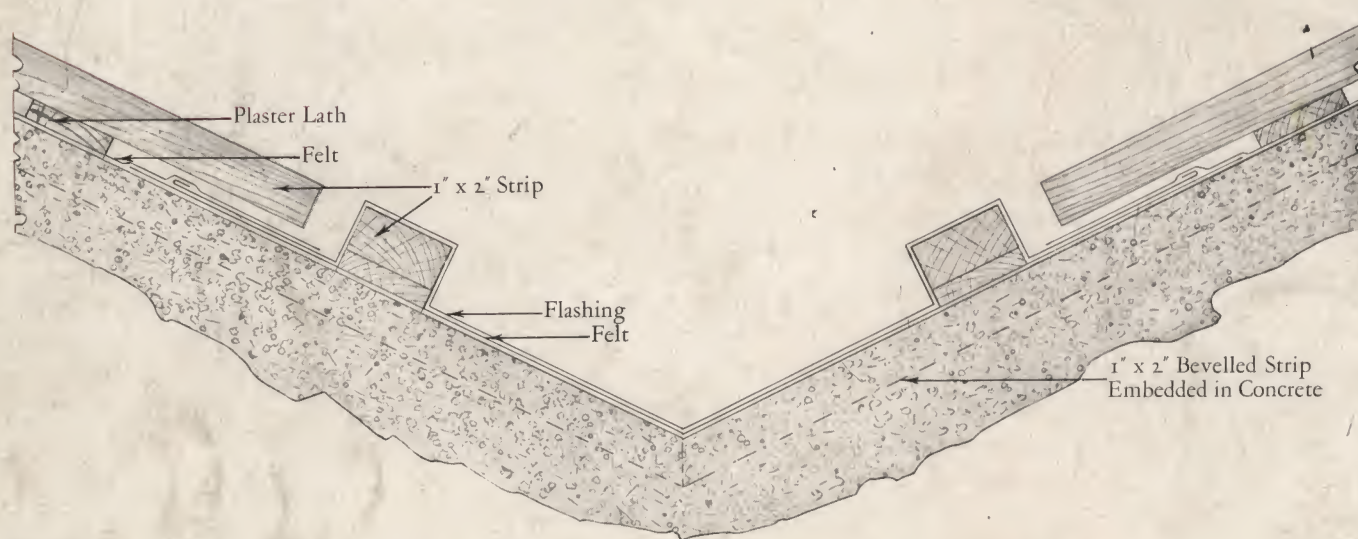
Height of hip and ridge stringer varies according to roof pitch.
Additional details of construction shown on pages 12 and 13.

SCALE 3"=1' 0"

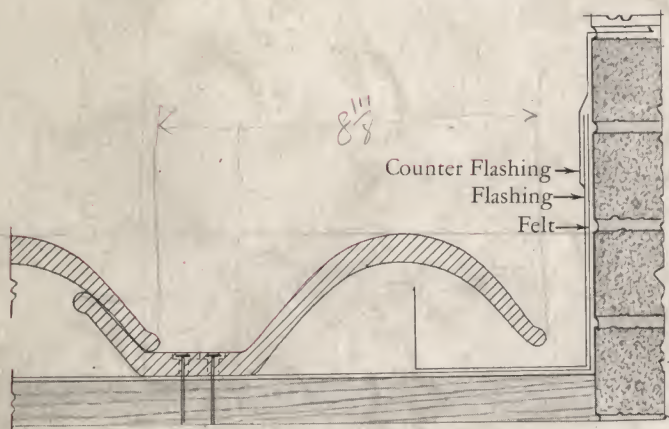
DETAILS OF "IMPERIAL" SPANISH TILE AND FITTINGS



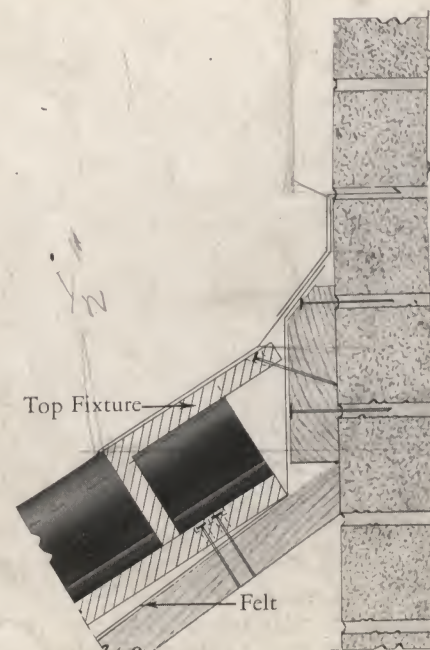
Cross section showing valley flashing on wood roof base. See specification.



Cross section showing valley flashing on concrete roof base. See specification.



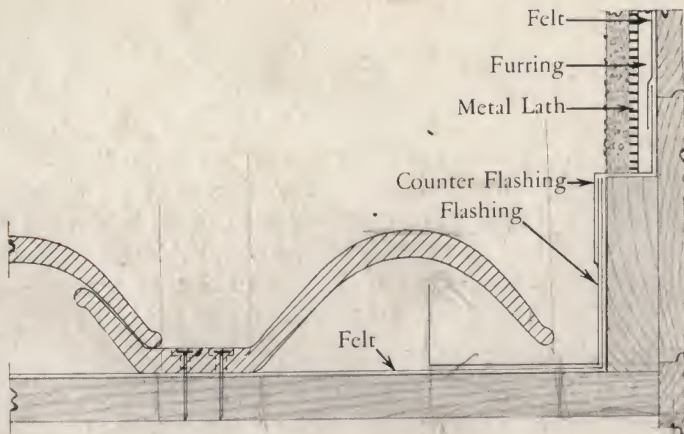
Longitudinal section through roof showing flashing of side of tile against brick wall.



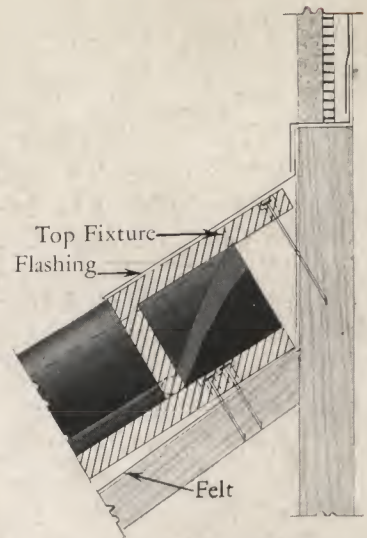
Cross section through roof showing flashing over top of tile against brick wall.

SCALE 3"=1' 0"

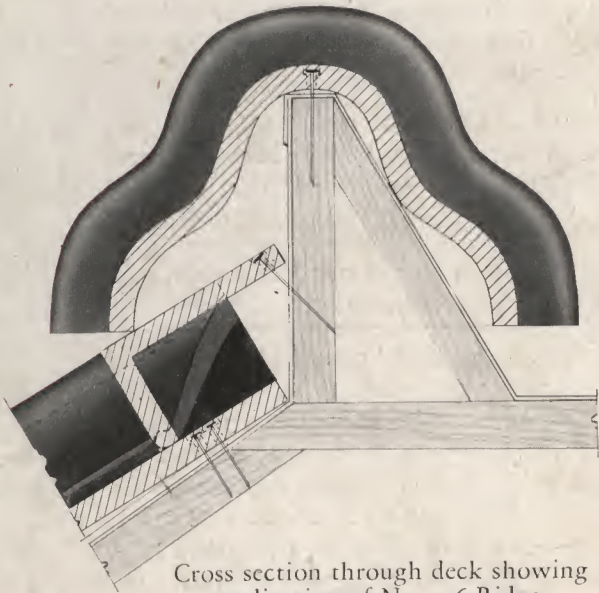
DETAILS OF "IMPERIAL" SPANISH TILE AND FITTINGS



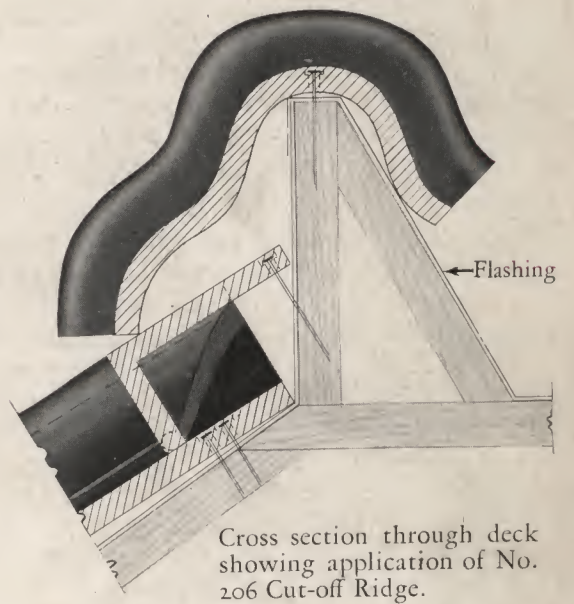
Longitudinal section through roof showing flashing of side of tile against stucco wall.



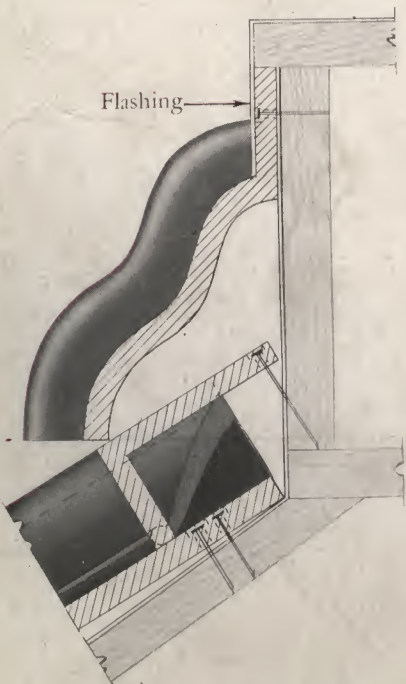
Cross section through roof showing flashing over top of tile against stucco wall.



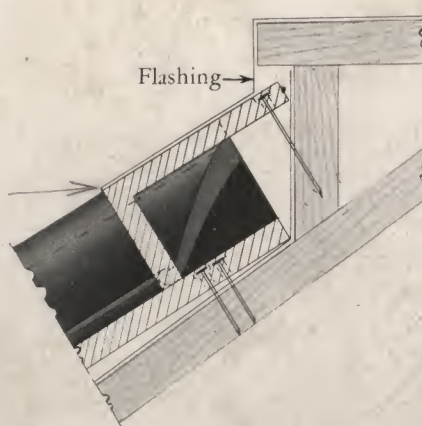
Cross section through deck showing application of No. 206 Ridge.



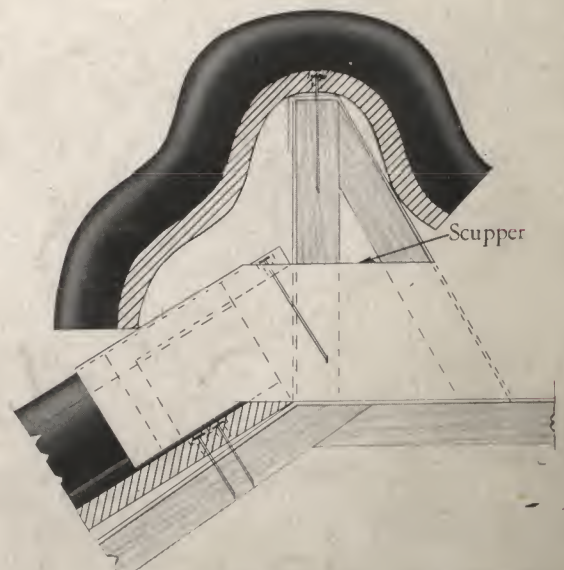
Cross section through deck showing application of No. 206 Cut-off Ridge.



Cross section through deck showing application of No. 206 Deck Mould-Raised Flange



Cross section through deck showing flashing over top of tile.



Cross section through deck showing application of No. 206 Cut-off Ridge, using 3"x4" scuppers to drain deck.

Height of ridge stringer for all types of deck construction varies according to roof pitch.

SCALE 3"=1' 0"

"IMPERIAL" STRAIGHT BARREL MISSION TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" Straight Barrel Mission Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Closed Valley to be cut and closed to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped $2\frac{1}{2}$ " horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge and 1" x $3\frac{1}{2}$ " strips spaced to suit Covers. When Covers are laid at random exposure strips to be 1" x 4". All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with $\frac{1}{4}$ " edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under tile not less than 4" and turn up edge $1\frac{1}{2}$ ". At lower side of

dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with 2" copper nails. When Covers are laid at random exposure break horizontal and diagonal lines in first three courses at eave and maintain this effect throughout roof. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with $2\frac{1}{2}$ " copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalecode, sawdust concrete or other nailing compound.

If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

Average exposure $11\frac{1}{2}$ " width, center to center of Covers, by $11\frac{1}{4}$ " length.
When laid at random, full cornered tile are furnished.
Weight per square, including average fittings, 1300 lbs.
Average pieces per square, 224.

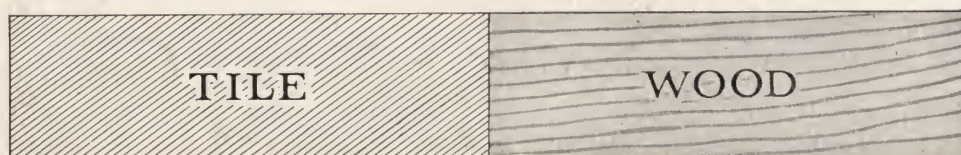
SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
No. 102 Hip Roll.....	8	No. 206 Closed Ridge End.....	9
No. 152 Hip Starter.....	8	Plain Terminal 2H and 1R.....	9
No. 206 Ridge.....	8	No. 405 Terminal 2H and 1R.....	10
No. 206 Cut-off Ridge.....	9	No. 406 Gable Terminal.....	10
No. 206 Deck Mould-Raised Flange.....	9	Other fittings.....	15 & 16

Cover serves as End Band.

Cover may also be used as Hip Roll and Ridge.

KEY TO MATERIALS



Details of construction shown on page 17.

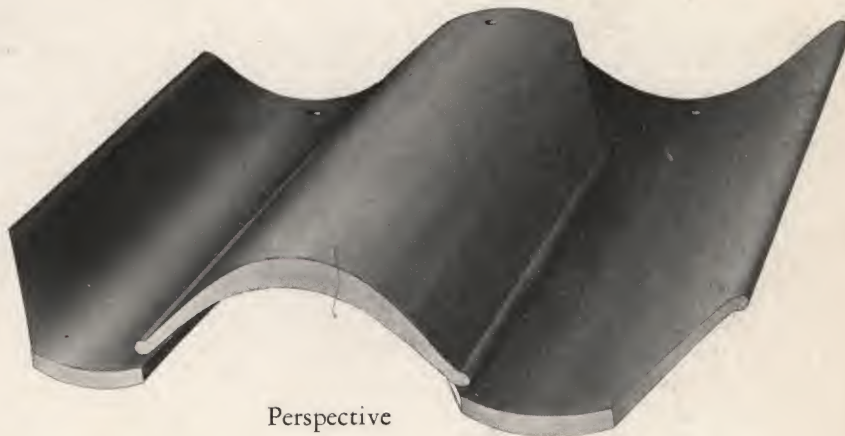
"IMPERIAL" STRAIGHT BARREL MISSION TILE AND FITTINGS



Plan of Pan



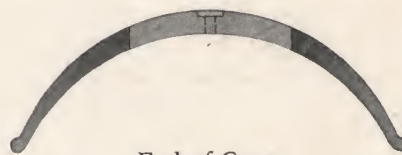
Side of Cover



Perspective



Plan of Cover

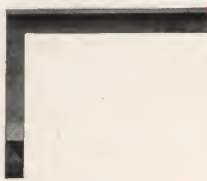


End of Cover

TOP FIXTURE



Front



Side



Perspective

GABLE RAKE TOP



Front



Side



Perspective

For other fittings see pages 14 and 16.

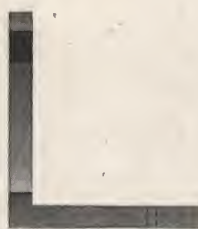
SCALE 3"=1' 0"

"IMPERIAL" STRAIGHT BARREL MISSION TILE FITTINGS

EAVE CLOSURE



Front



Side

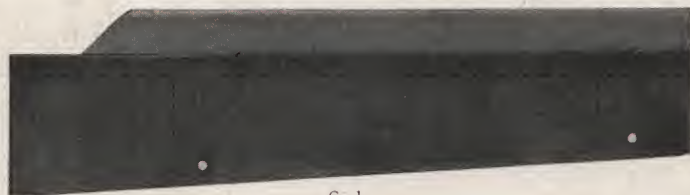


Perspective

DETACHED GABLE RAKE—RIGHT



End



Side



Perspective

A right is used on right side of roof from the viewpoint of one facing the eave.

PLAIN TERMINAL 2H and 1R—STARTER

For Cover used as Hip Roll and Ridge.

A starter has cut corners on open end as on top end of Cover

A finisher has full corners on open end as on bottom end of Cover.



End



Perspective

MISSION COVER CLOSED RIDGE END—STARTER

A starter has cut corners on open end as on top end of Cover.

A finisher has full corners on open end as on bottom end of Cover.



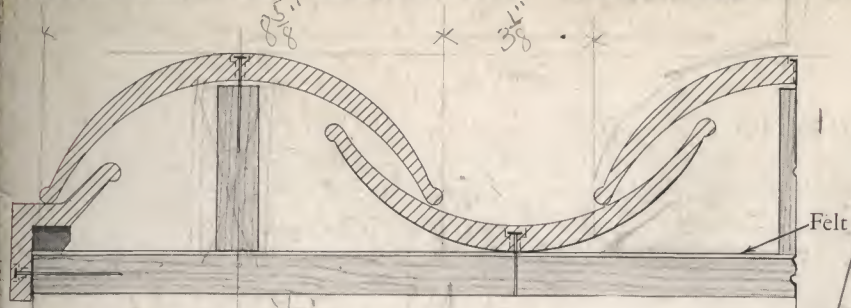
End



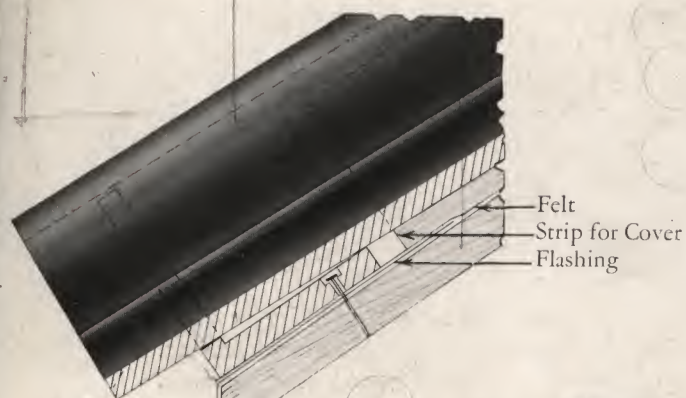
Perspective

SCALE 3"=1' 0"

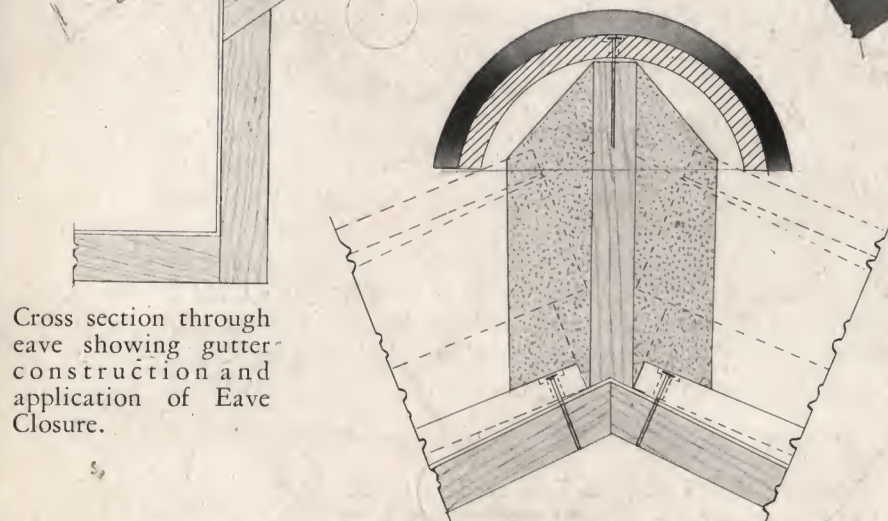
DETAILS OF "IMPERIAL" STRAIGHT BARREL MISSION TILE AND FITTINGS



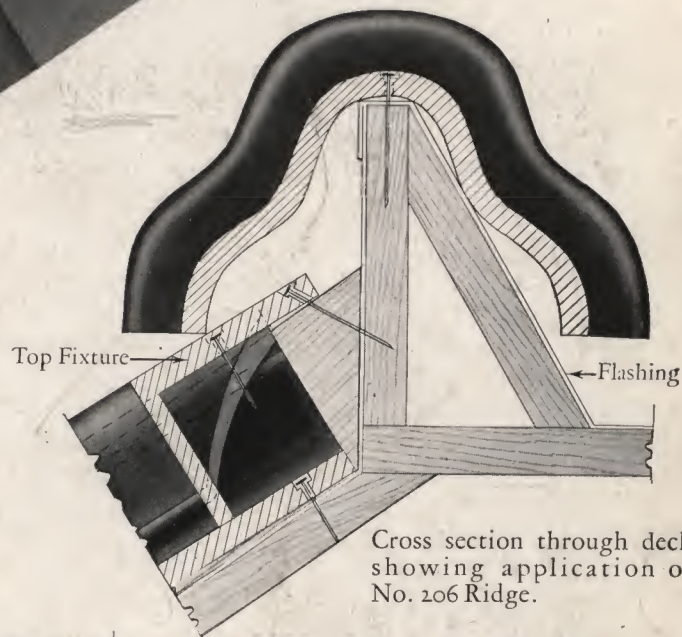
Longitudinal section through roof showing Left Gable Rake and End Band.



Side elevation showing Right Gable Rake.

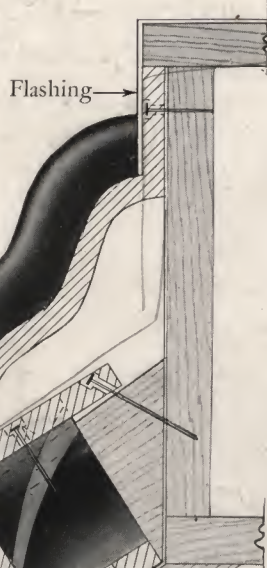


Cross section through eave showing gutter construction and application of Eave Closure.

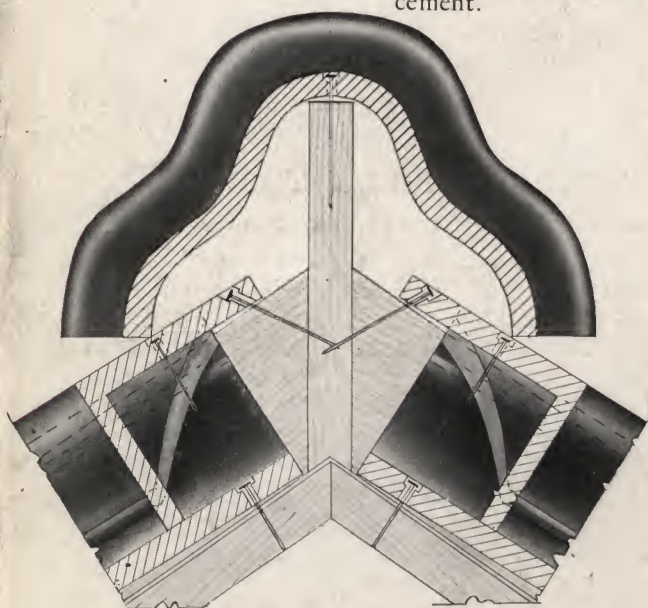


Cross section through deck showing application of No. 206 Ridge.

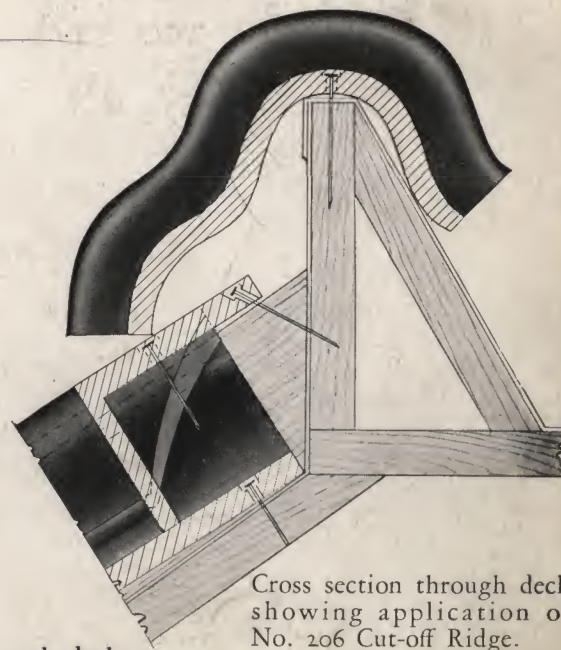
Cross section through hip showing application of No. 102 Hip Roll and pointing of Cut Hips with elastic cement.



Cross section through deck showing application of No. 206 Deck Mould-Raised Flange.



Cross section through ridge showing application of No. 206 Ridge.



Cross section through deck showing application of No. 206 Cut-off Ridge.

Height of stringer for hip, ridge and all types of deck construction varies according to roof pitch.

Flashing at wall, valley and flush deck, also scupper treatment, is the same as that detailed for Spanish Tile on pages 11, 12 and 13.

SCALE 3"=1' 0"

SPECIFICATION

✓ **TILE ROOF:** Cover all pitched roofs with "Imperial" Mexican Mission Roofing Tile, made by Ludowici-Celadon Company, with Covers for Hip Roll, Ridge and Gable Rake. Tile as specified must be hard burned and of color as selected by architect.

2 **PREPARATION OF ROOF:** Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

3 ✓ **FELT:** Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 40 lbs. per 100 square feet, laid parallel to eave and ridge, lapped 2½" horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

4 ✓ **WOOD STRIPS:** Apply on hips and ridges 2" wood stringers of proper height to carry Hip Roll and Ridge, ⅝" x 1" cant strips at eave and 2" x ¾" strips spaced to suit Covers. All strips to be furnished by general contractor and applied by his men under direction of roofer.

5 **METAL FLASHING:** Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with ¼" edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and

thoroughly counterflash. Extend such flashing under tile not less than 4" and turn-up edge 1½". At lower side of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with 2" copper nails. When Covers are laid at random exposure break horizontal and diagonal lines in first three courses at eave and maintain this effect throughout roof. Fill open spaces under Hip Roll and Ridge with Portland Cement.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

8 If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

Specification for (handmade "Imperial" Large Tapered Mission Roofing Tile) is the same as that for Mexican Mission Tile except as follows:

WOOD STRIPS: Use 2" x ¾" strips spaced to suit Covers.

✓ **TILE LAYING:** Lay Pans regular with 3" lap. Lay Covers random. Break horizontal and diagonal lines in first three courses at eave and maintain this effect throughout roof. Distribute the different colors and shades so as to give a general mottled tone. Avoid striped or checkerboard effect.

MEXICAN MISSION TILE

Average exposure 11" width, center to center of Covers, by 11½" length.

Weight per square, including average fittings, 1350 lbs.

Average pieces per square, 228.

These patterns are made with full corners because they are generally laid at random.

LARGE TAPERED MISSION TILE

Average exposure 11" width, center to center of Covers, by 13" length.

Weight per square, including average fittings, 1400 lbs.

Average pieces per square, 200.

SUGGESTED FITTINGS

Cover for each pattern is used as Gable Rake, Hip Roll and Ridge.

KEY TO MATERIALS



Details of construction shown on page 20.

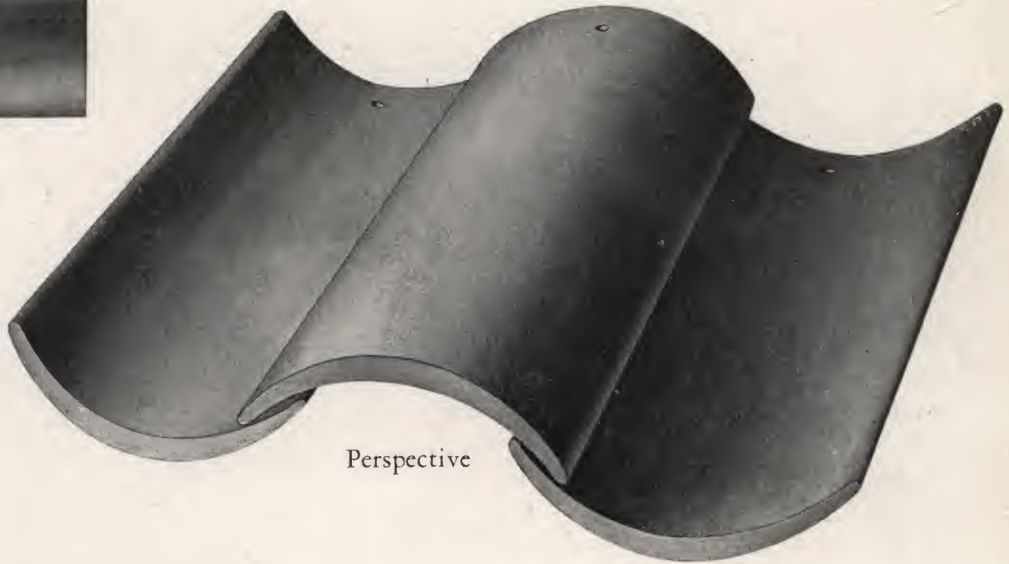
"IMPERIAL" MEXICAN MISSION TILE



Side of Cover



End of Cover



Perspective

Pan and Cover are identical.

EAVE CLOSURE



Front

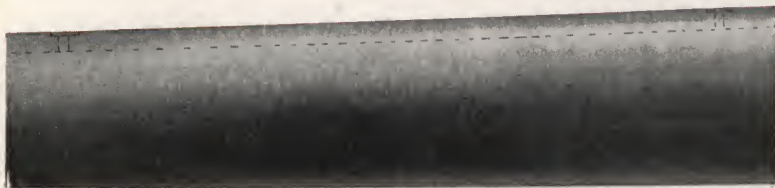


Side



Perspective

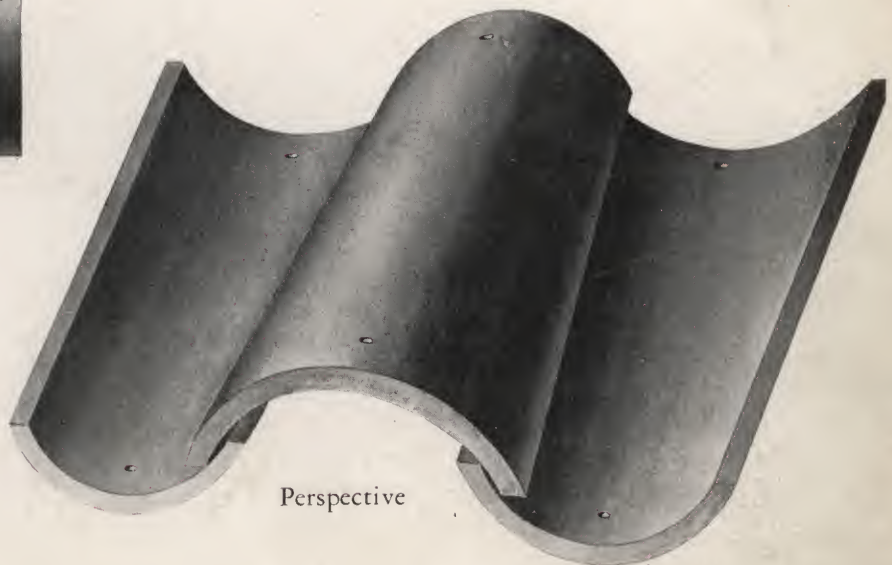
"IMPERIAL" LARGE TAPERED MISSION TILE



Side of Cover



End of Cover

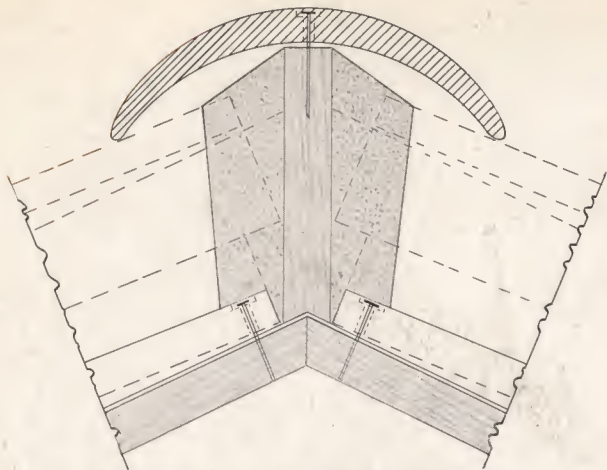


Perspective

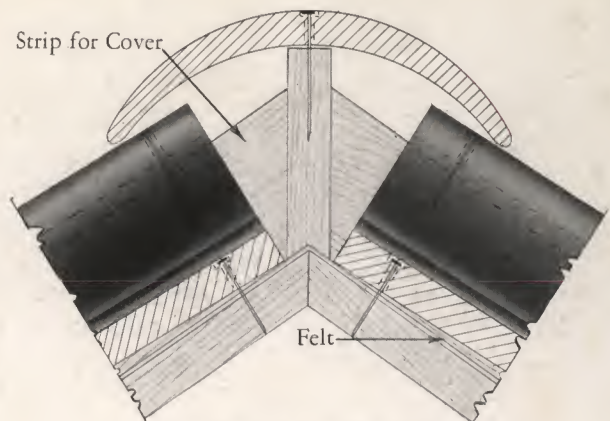
Pan and Cover are identical.

SCALE 3"=1' 0"

DETAILS OF "IMPERIAL" MEXICAN MISSION TILE



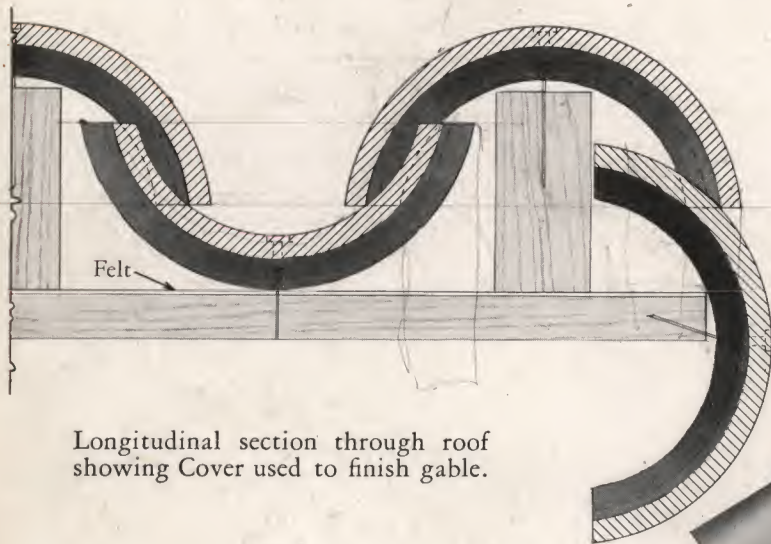
Cross section through hip showing application of Cover used as Hip Roll and pointing of Cut Hips with Portland Cement.



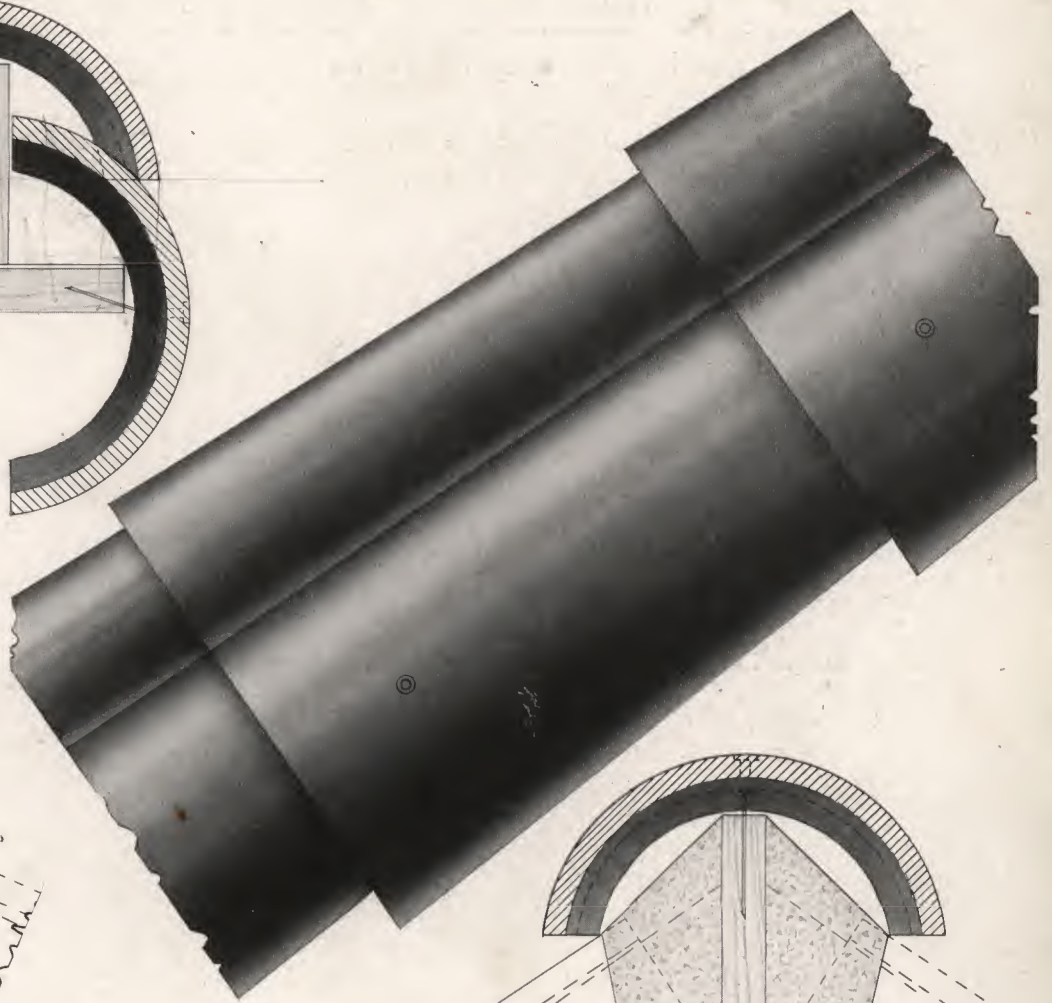
Cross section through ridge showing application of Cover used as Ridge.

Cover used to finish gable and cement to finish ridge as shown below for Large Tapered Mission Tile.

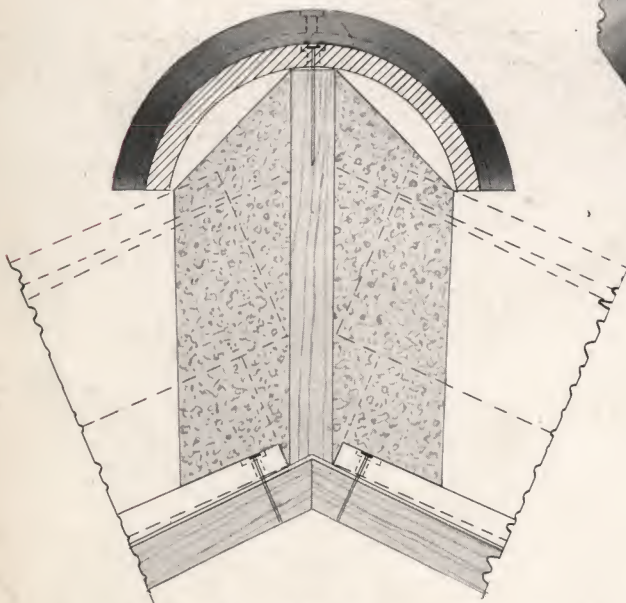
DETAILS OF "IMPERIAL" LARGE TAPERED MISSION TILE



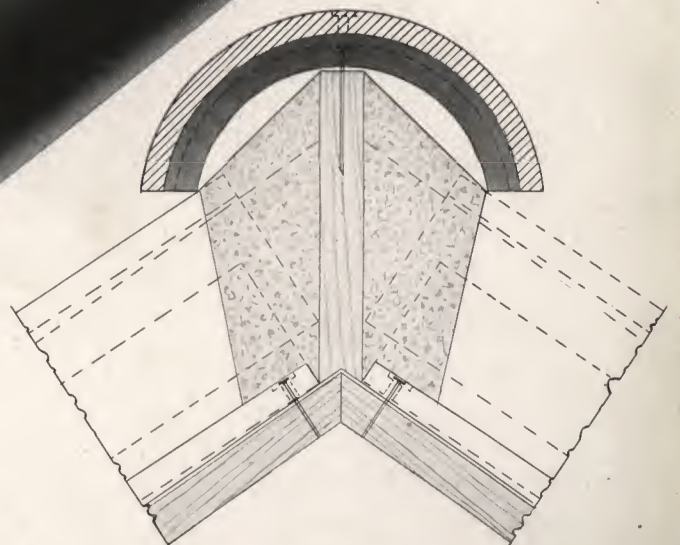
Longitudinal section through roof showing Cover used to finish gable.



Side elevation of gable.



Cross section through hip showing application of Cover used as Hip Roll and pointing of Cut Hips with Portland Cement.

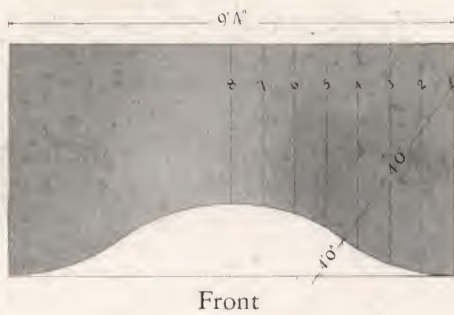


Cross section through ridge showing application of Cover used as Ridge.

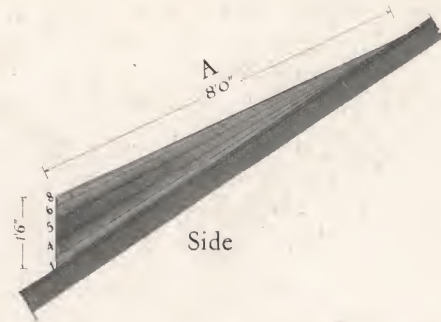
Height of hip and ridge stringer varies according to roof pitch.
Flashing at wall, valley, gutter and flush deck, also scupper treatment, is the same as that detailed for Spanish Tile on pages 11, 12 and 13.

SCALE 3"=1' 0"

SUGGESTIONS FOR CONSTRUCTION OF EYEBROW DORMERS

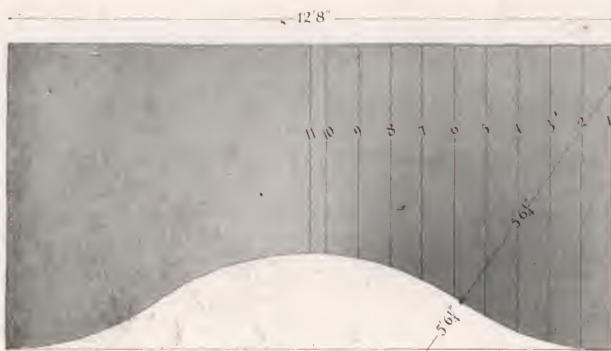


Front

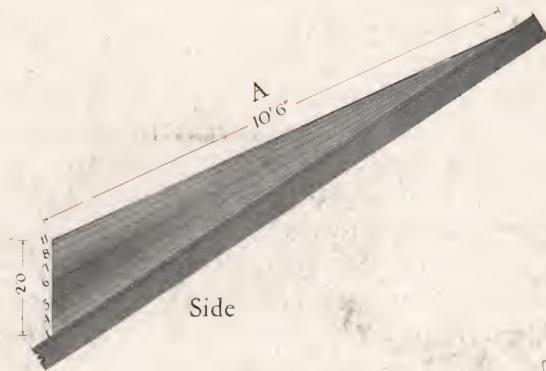


Side

Regular Spanish Tile can be laid over this dormer. See note below.



Front

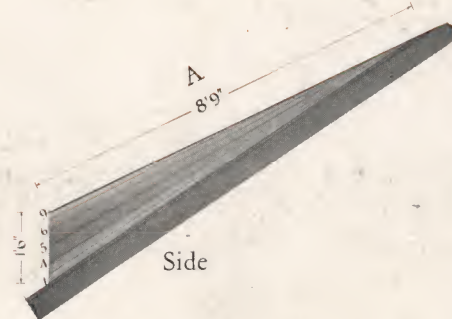


Side

Regular Spanish, Closed Shingle and $\frac{5}{8}$ " Slab Shingle Tiles can be laid over this dormer. See note below.



Front



Side

Regular Closed Shingle and $\frac{5}{8}$ " Slab Shingle Tiles can be laid over this dormer. See note below.

French Tile cannot be worked over eyebrow dormers.

Rafters and sheathing must show a straight line from the curved eave to the point directly above where it joins main roof and on a line with the point where center line of eyebrow meets main roof. See front elevations.

Regardless of pitch of main roof, distance A must always remain the same except when pitch is steeper than 12" rise in 12" run it should be lengthened.

When $\frac{5}{8}$ " Slab Shingle Tile is used, it is necessary to crowd tile at top of dormer and spread it at eave. Exposure of each tile should be shortened as it leaves main roof until center of dormer is reached, so that at this latter point the tile will lay approximately $4\frac{1}{2}$ " exposure.

Dormers can be made larger or smaller providing measurements shown are increased or decreased proportionately.

"IMPERIAL" SMALL TAPERED MISSION TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" Small Tapered Mission Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Closed Valley to be cut and closed to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped 2 1/2" horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge and 1" x 4 1/4" strips spaced to suit Covers. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with 1/4" edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under tile not less than 4" and turn up edge 1 1/2". At lower side

of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with 2" copper nails. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with 2 1/2" copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

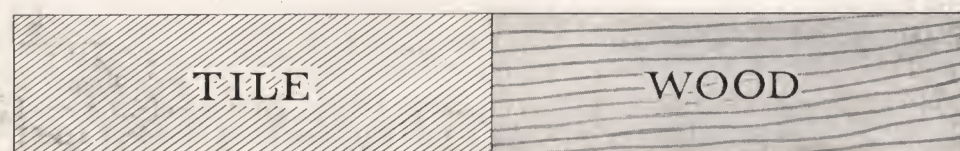
If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

Average exposure 9 1/2" width, center to center of Covers, by 11 1/4" length.
Weight per square, including average fittings, 1480 lbs.
Average pieces per square, 270.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
Detached Gable Rake.....	16	No. 206 Closed Ridge End.....	9
No. 102 Hip Roll.....	8	Plain Terminal 2H and 1R.....	9
No. 152 Hip Starter.....	8	No. 405 Terminal 2H and 1R.....	10
No. 206 Ridge.....	8	No. 406 Gable Terminal.....	10
No. 206 Cut-off Ridge.....	9	Other fittings.....	23
No. 206 Deck Mould-Raised Flange.....	9	Cover serves as End Band.	

KEY TO MATERIALS

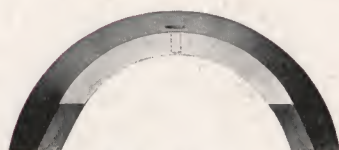


Details of construction for this pattern are the same as those for Straight Barrel Mission Tile on page 17.

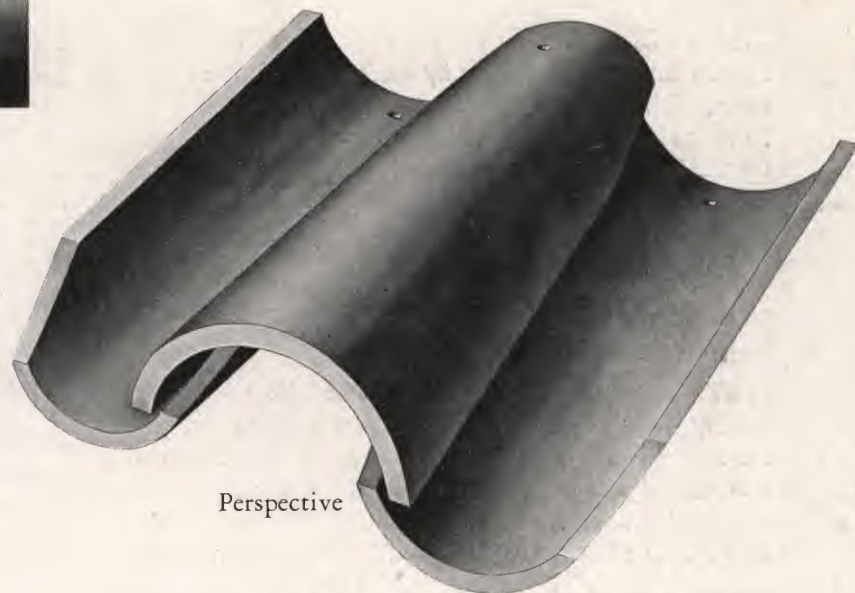
"IMPERIAL" SMALL TAPERED MISSION TILE AND FITTINGS



Side of Cover



End of Cover



Perspective

Pan and Cover are identical except that nail hole is reversed.

TOP FIXTURE



Front



Side



Perspective

GABLE RAKE TOP



Front



Side



Perspective

EAVE CLOSURE



Front



Side



Perspective

For other fittings see page 22.

SCALE 3"=1' 0"

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" Roman Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Closed Valley to be cut and closed to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped $2\frac{1}{2}$ " horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringer of proper height to carry Hip Roll and Ridge and 1" x $2\frac{5}{8}$ " strips spaced to suit Covers. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with $\frac{1}{4}$ " edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under tile

not less than 4" and turn up edge $1\frac{1}{2}$ ". At lower side of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with 2" copper nails. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with $2\frac{1}{2}$ " copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

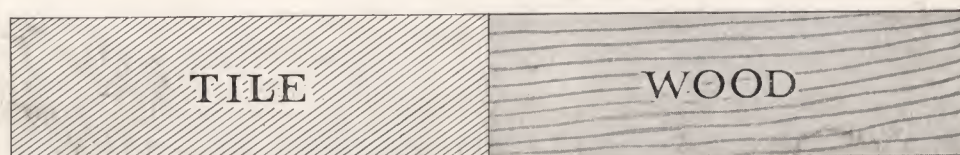
Average exposure 12" width, center to center of Covers, by 10" length.
Weight per square, including average fittings, 1200 lbs.
Average pieces per square, 240.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
Detached Gable Rake.....	29	No. 206 Deck Moulded Raised Flange.....	9
No. 102 Hip Roll.....	8	No. 206 Closed Ridge End.....	9
No. 152 Hip Starter.....	8	Plain Terminal 2H and 1R.....	9
No. 206 Ridge.....	8	No. 405 Terminal 2H and 1R.....	10
No. 206 Cut-off Ridge.....	9	No. 406 Gable Terminal.....	10

Cover serves as End Band and may also be used as Hip Roll.
For other fittings see page 25.

KEY TO MATERIALS

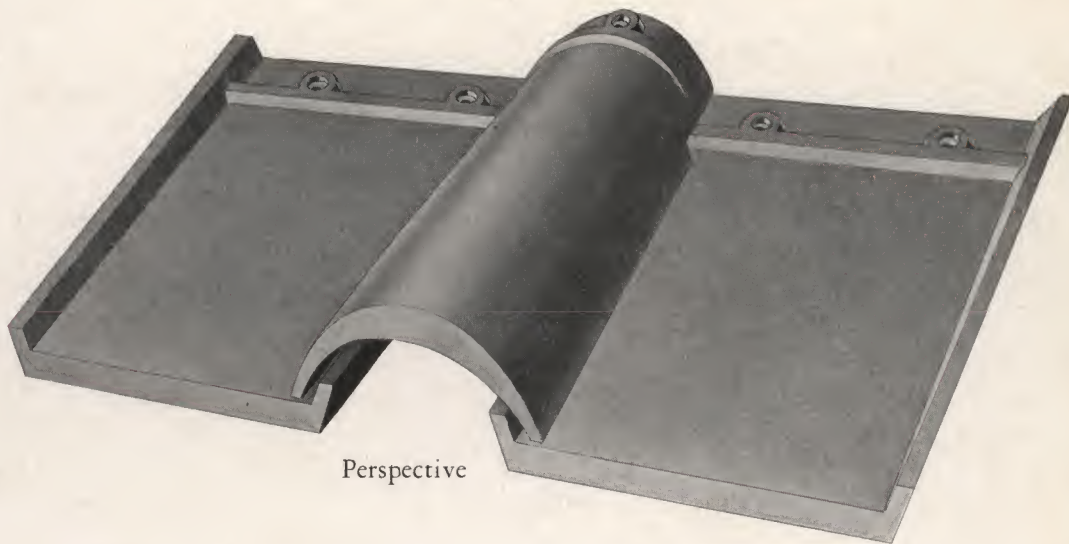


Details of construction shown on page 26.

"IMPERIAL" ROMAN TILE AND FITTINGS



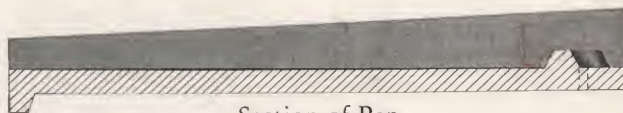
Plan of Pan



Perspective



Plan of Cover

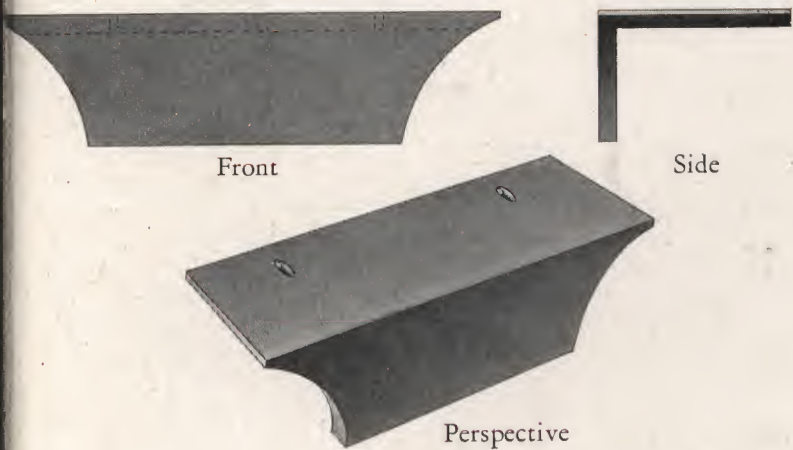


Section of Pan



Section of Cover

TOP FIXTURE

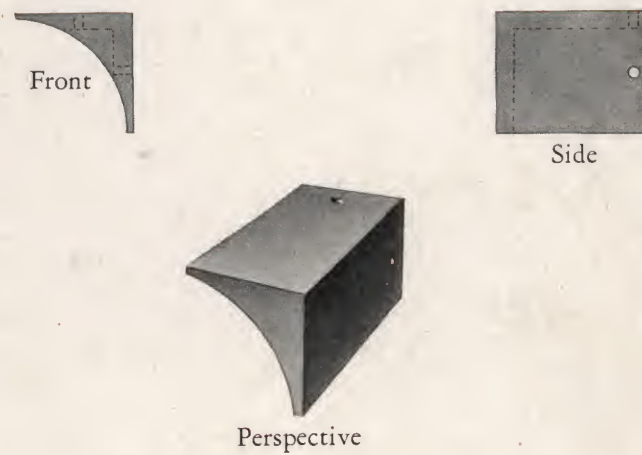


Front

Side

Perspective

GABLE RAKE TOP

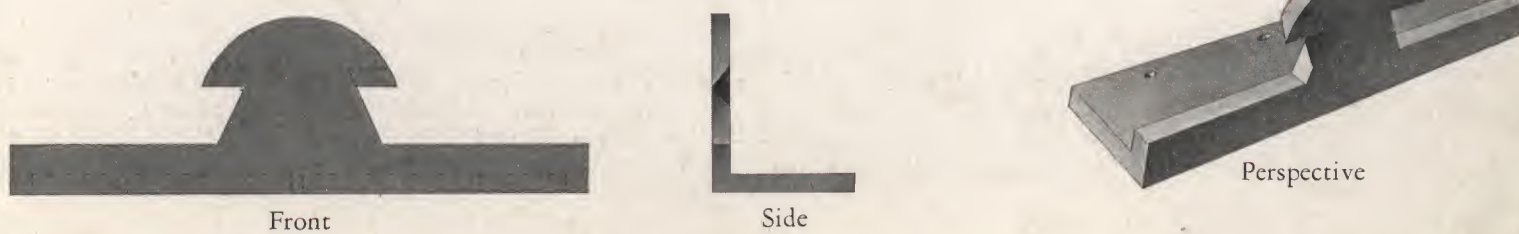


Front

Side

Perspective

EAVE CLOSURE



Front

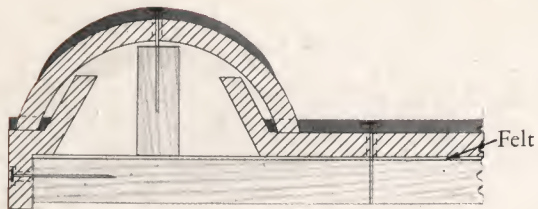
Side

Perspective

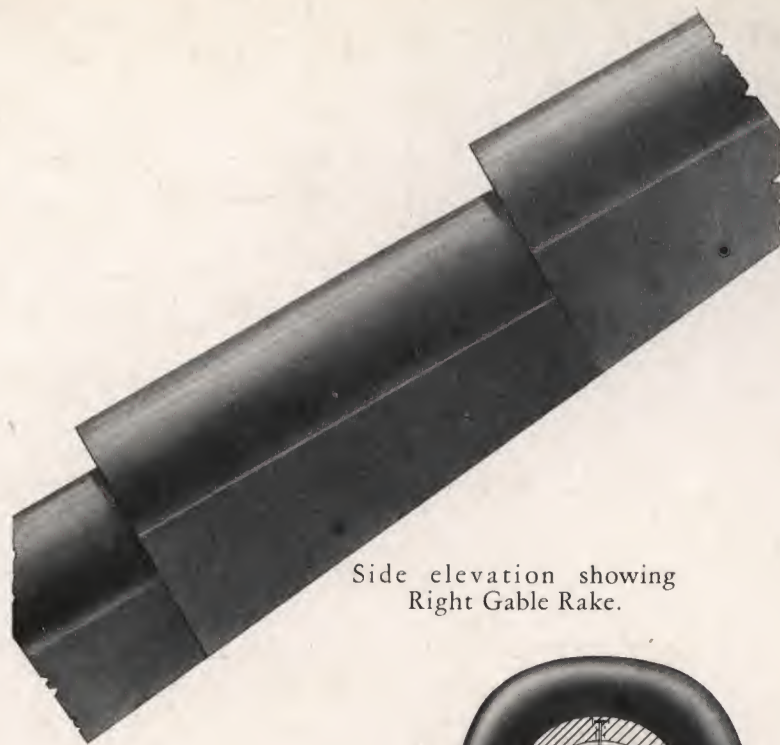
For other fittings see page 24.

SCALE 3"=1' 0"

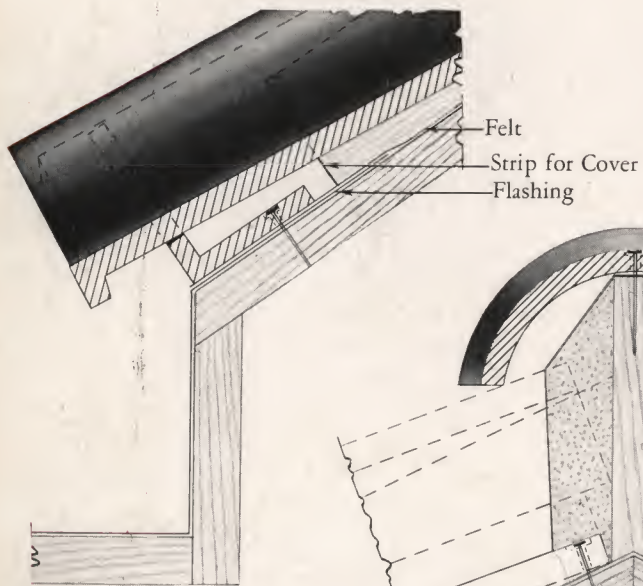
DETAILS OF "IMPERIAL" ROMAN TILE AND FITTINGS



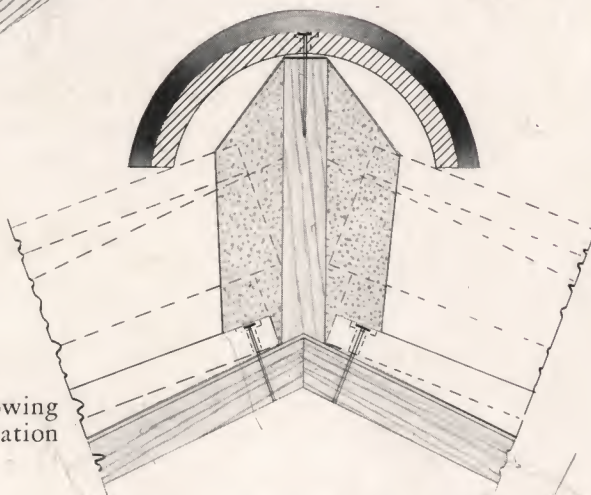
Longitudinal section through roof showing Left Gable Rake and End Band.



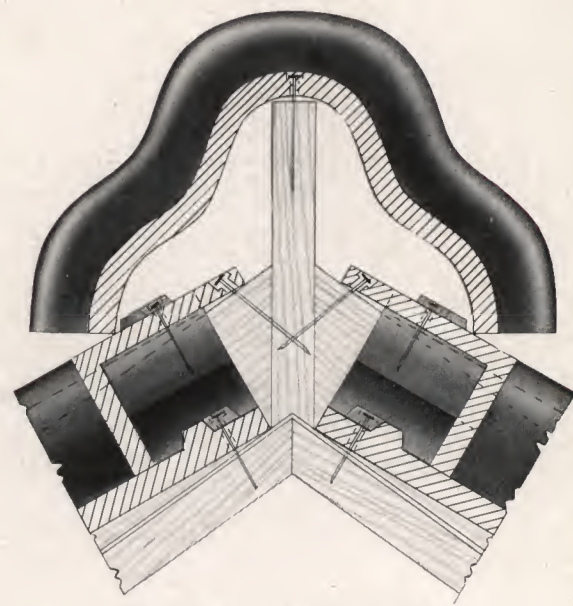
Side elevation showing Right Gable Rake.



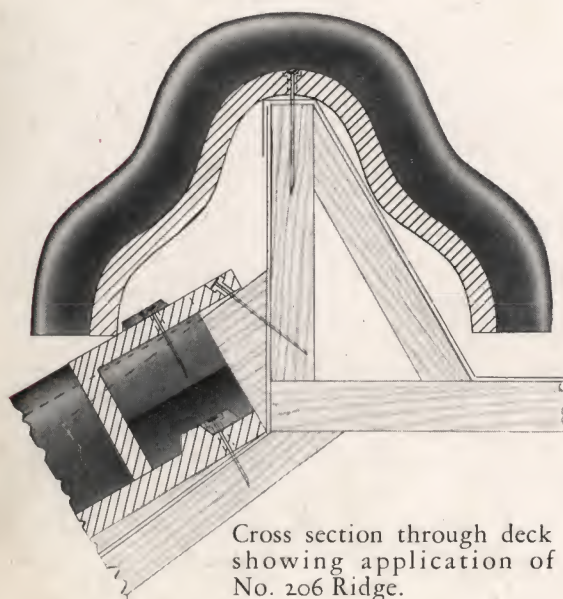
Cross section through eave showing gutter construction and application of Eave Closure.



Cross section through hip showing application of No. 102 Hip Roll and pointing of Cut Hips with elastic cement.



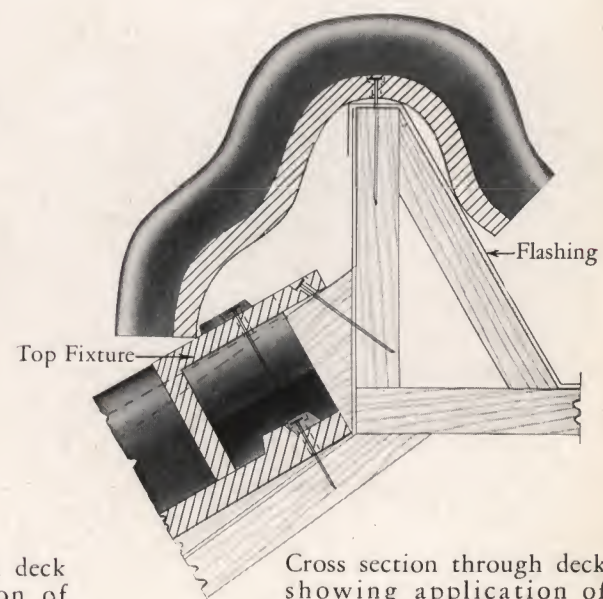
Cross section through ridge showing application of No. 206 Ridge.



Cross section through deck showing application of No. 206 Ridge.



Cross section through deck showing application of No. 206 Deck Mould-Raised Flange.



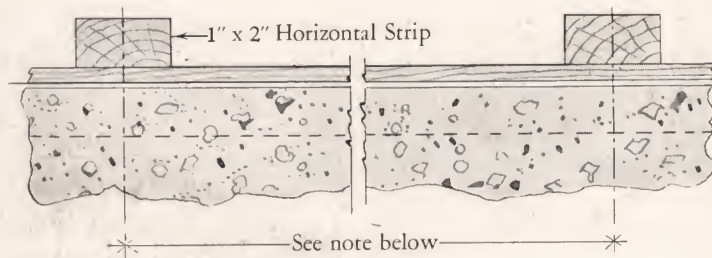
Cross section through deck showing application of No. 206 Cut-off Ridge.

Height of stringer for hip, ridge and all types of deck construction varies according to roof pitch.

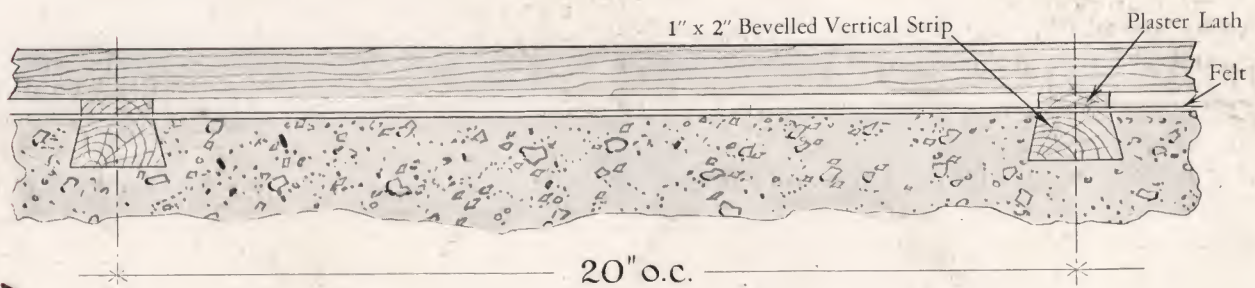
Flashing at wall, valley and flush deck, also scupper treatment, is the same as that detailed for Spanish Tile on pages 11, 12 and 13.

SCALE 3"=1' 0"

DETAILS OF STRIP SPACING FOR "IMPERIAL" ROOFING TILES

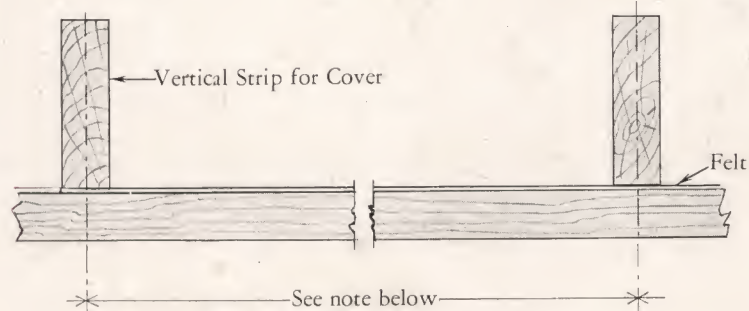


Cross section through roof.

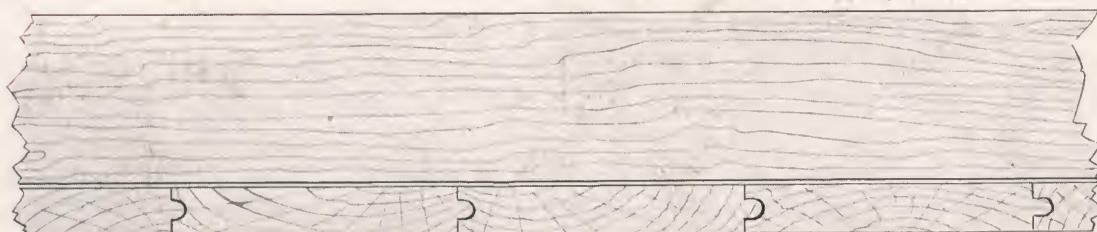


Longitudinal section through roof.

Above drawings show application of horizontal strips on concrete roof base for all patterns of tile. Spacing of horizontal strips determined by pattern of tile.



Longitudinal section through roof.



Cross section through roof.

Above drawings show application of vertical strips on wood roof base for all Mission patterns, Roman and Greek. Spacing and height of vertical strips determined by pattern of tile. See specifications.

"IMPERIAL" GREEK TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" Greek Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Closed Valley to be cut and closed to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped $2\frac{1}{2}$ " horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge and 1" x $2\frac{1}{2}$ " strips, spaced to suit Covers. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with $\frac{1}{4}$ " edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under tile

not less than 4" and turn up edge $1\frac{1}{2}$ ". At lower side of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with 2" copper nails. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with $2\frac{1}{2}$ " copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

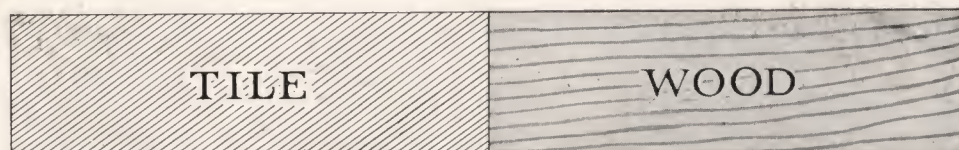
If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips must be furnished by general contractor and applied by his men.

Average exposure 12" width, center to center of Covers, by 10" length.
Weight per square, including average fittings, 1200 lbs.
Average pieces per square, 240.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
No. 211 Ridge.....	38	Other fittings	29
No. 211 Cut-off Ridge.....	38	Cover serves as End Band.	
No. 211 Deck Mould-Raised Flange	38	Cover used as Hip Roll.	
No. 211 Closed Ridge End.....	38	Hip Starter can be made with closure like that detailed on page 41 or with closure set back 2".	
Plain Terminal 2H and 1R.....	38		

KEY TO MATERIALS



Details of construction shown on page 30.

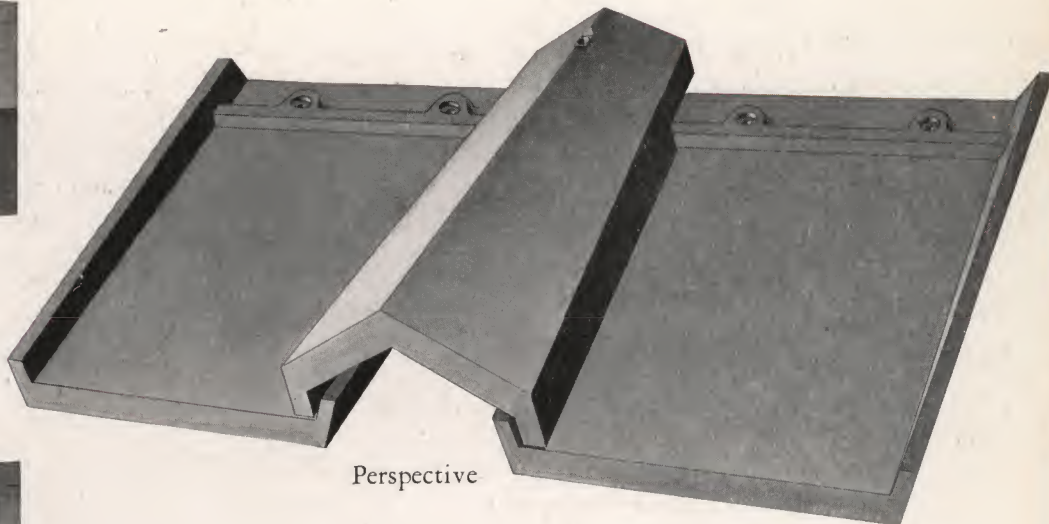
"IMPERIAL" GREEK TILE AND FITTINGS



Plan of Cover



Side of Cover



Perspective

Pan is similar to Roman Pan detailed on page 25.

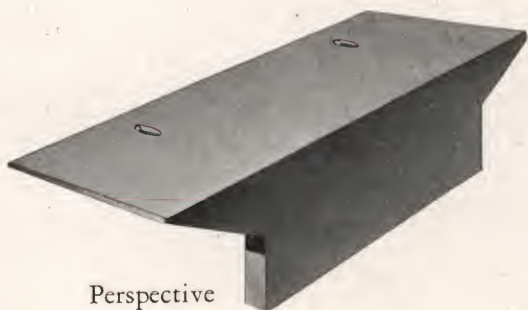
TOP FIXTURE



Front



Side



Perspective

DETACHED GABLE RAKE—RIGHT



Front



End



Perspective

A right is used on right side of roof from the viewpoint of one facing the eave.

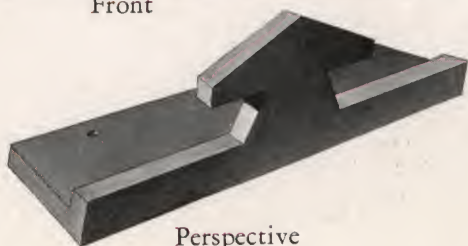
EAVE CLOSURE



Front



Side



Perspective

GABLE RAKE TOP



Front



Side

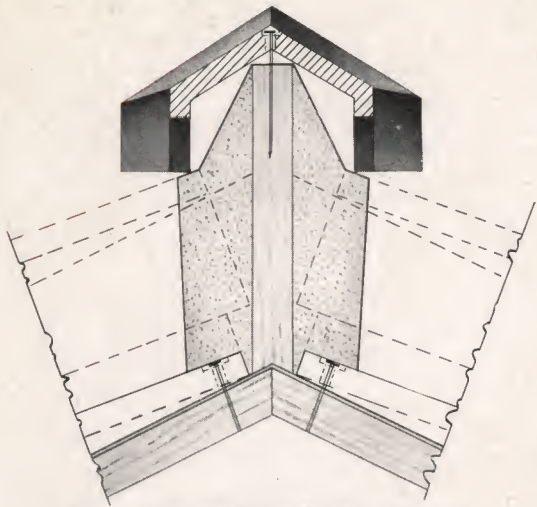


Perspective

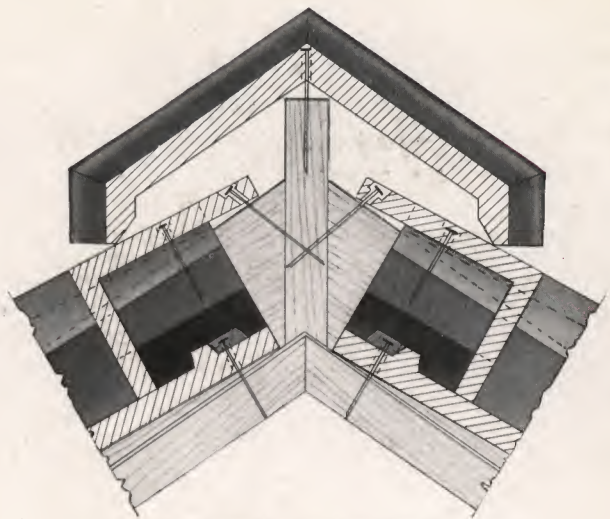
For other fittings see page 28.

SCALE 3"=1' 0"

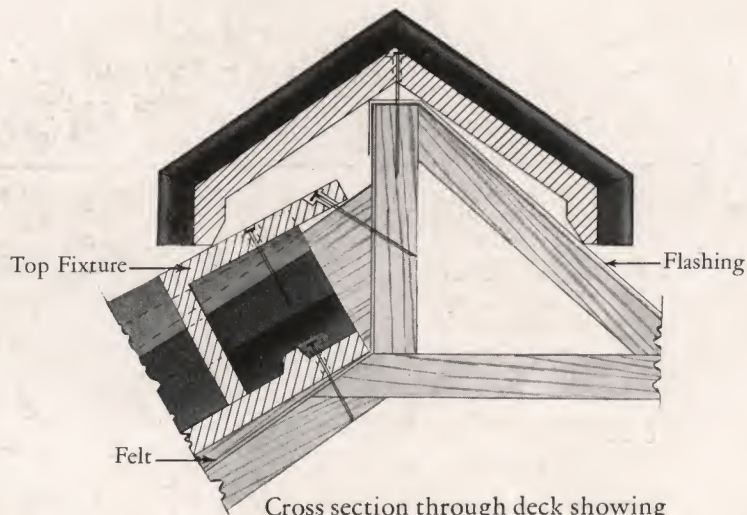
DETAILS OF "IMPERIAL" GREEK TILE AND FITTINGS



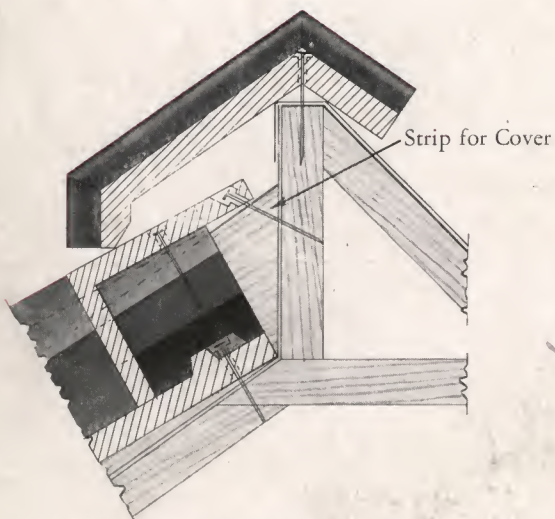
Cross section through hip showing application of Cover used as Hip Roll and pointing of Cut Hips with elastic cement.



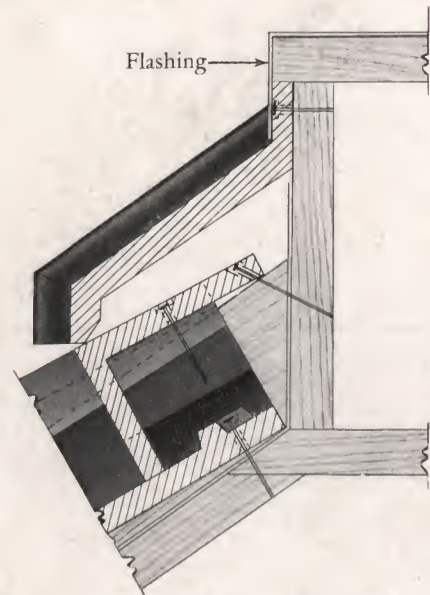
Cross section through ridge showing application of No. 211 Ridge.



Cross section through deck showing application of No. 211 Ridge.



Cross section through deck showing application of No. 211 Cut-off Ridge.



Cross section through deck showing application of No. 211 Deck Mould-Raised Flange.

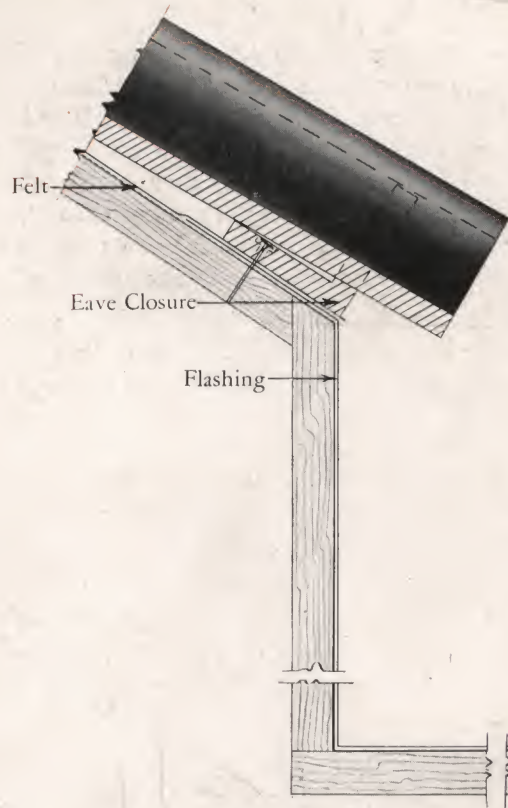
Height of stringer for hip, ridge and all types of deck construction varies according to roof pitch.

Flashing at wall, valley and flush deck, also scupper treatment, is the same as that detailed for Spanish Tile on pages 11, 12 and 13.

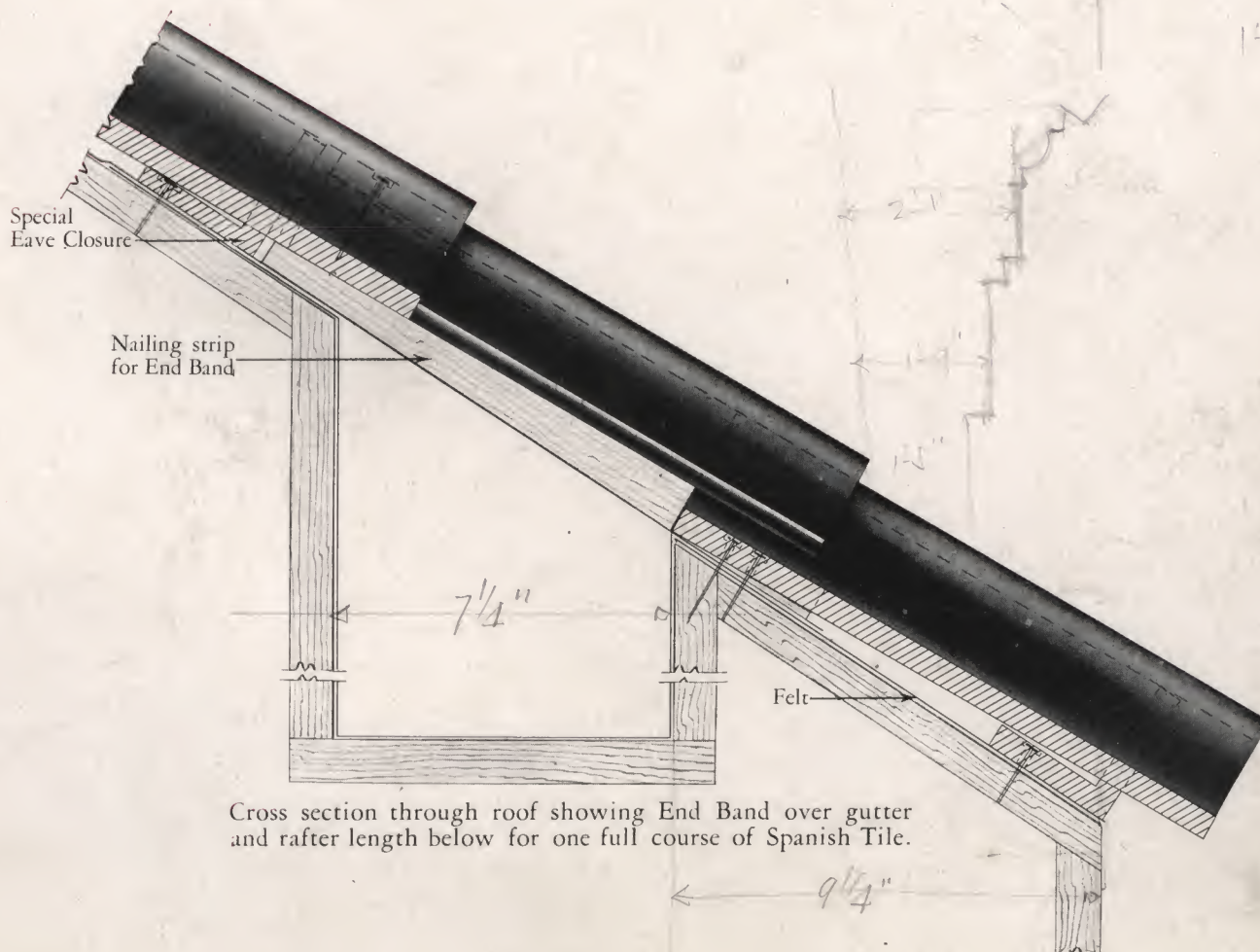
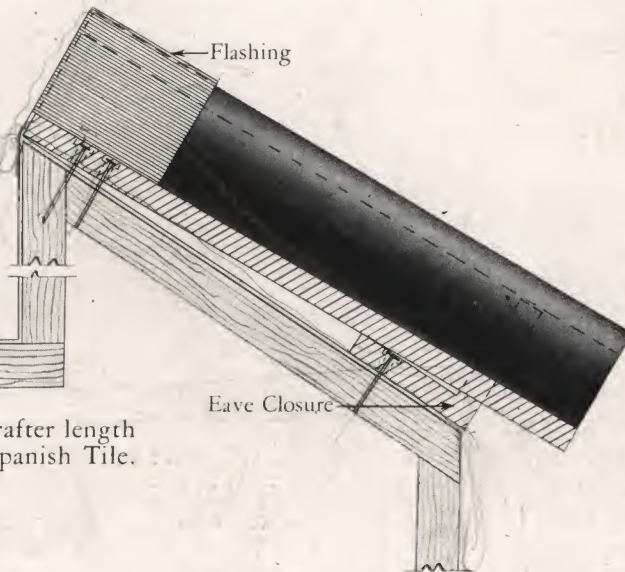
Flashing at gutter, also treatment at gable, is the same as that detailed for Roman Tile on page 26.

SCALE 3"=1' 0"

DETAILS OF CONCEALED GUTTERS



Cross section through roof showing rafter length below gutter for one full course of Spanish Tile.



Cross section through roof showing End Band over gutter and rafter length below for one full course of Spanish Tile.

"IMPERIAL" FRENCH TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" French Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Cut Valley to cut to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped 2 1/2" horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge and 1 1/2 x 2" cant strips at eave. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with 1/4" edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under tile

not less than 4" and turn up edge 1/2". At lower side of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with 2 1/2" copper nails. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with 2 1/2" copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

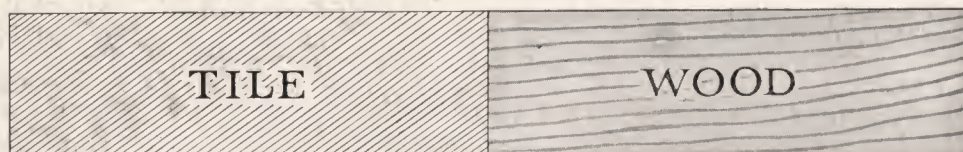
If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

Average exposure 8 1/8" width by 13 3/8" length.
Weight per square, including average fittings, 1025 lbs.
Average pieces per square, 133.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
No. 102 Hip Roll.....	8	No. 206 Closed Ridge End.....	9
No. 152 Hip Starter.....	8	Plain Terminal 2H and 1R.....	9
No. 206 Ridge.....	8	No. 405 Terminal 2H and 1R.....	10
No. 206 Cut-off Ridge.....	9	No. 406 Gable Terminal.....	10
No. 206 Deck Mould-Raised Flange.....	9	Other fittings.....	33

KEY TO MATERIALS



Details of construction shown on pages 34 and 35.

"IMPERIAL" FRENCH TILE AND FITTINGS



Section



Section

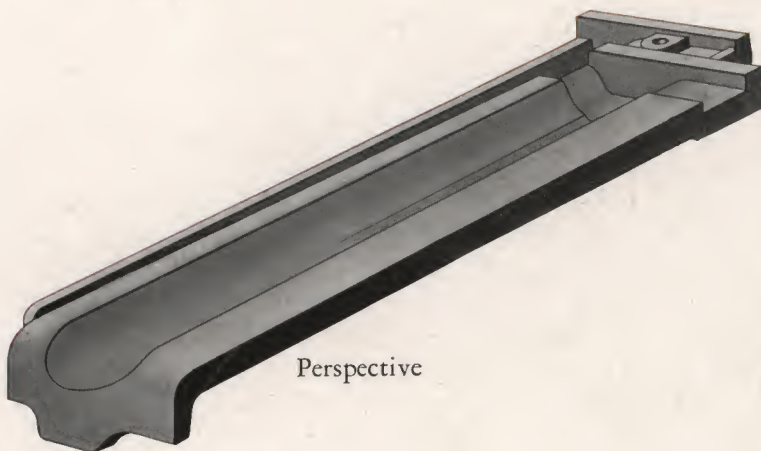


Perspective

END BAND OR HALF TILE



Section



Perspective

DETACHED GABLE RAKE—RIGHT

A right is used on right side of roof from the viewpoint of one facing the eave.



Side



Section



Section through Left Gable Rake.

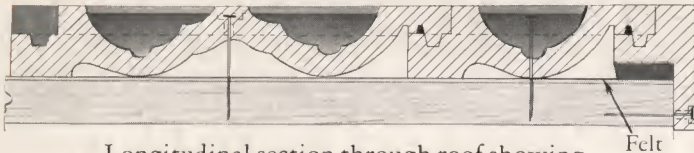


Perspective

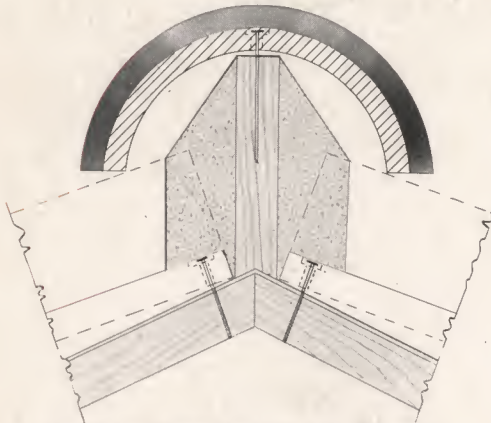
For other fittings see page 32.

SCALE 3"=1' 0"

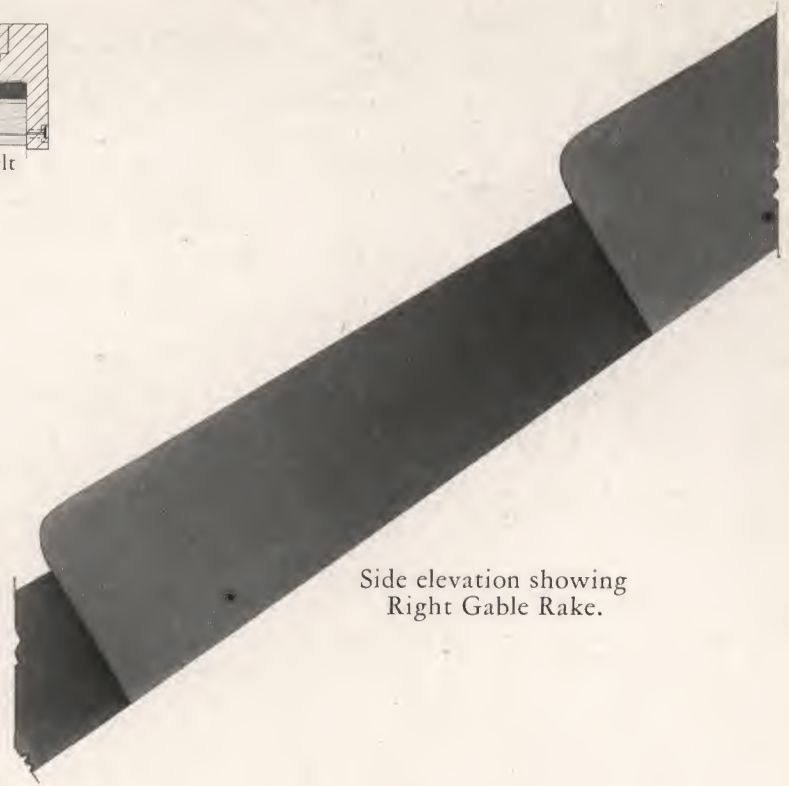
DETAILS OF "IMPERIAL" FRENCH TILE AND FITTINGS



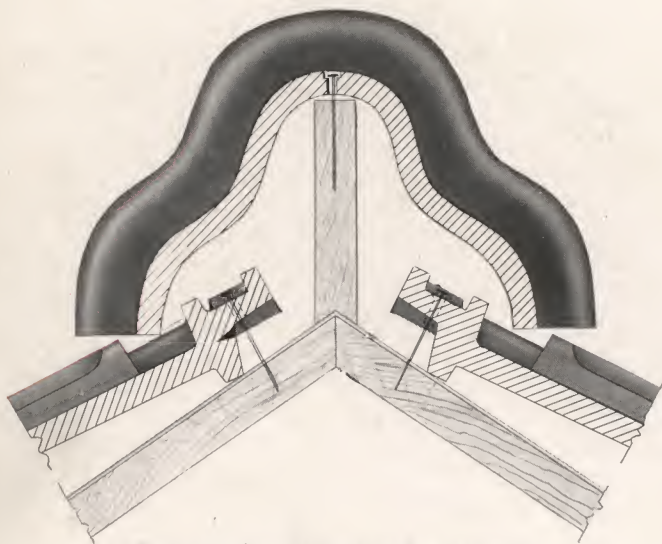
Longitudinal section through roof showing
Right Gable Rake and End Band.



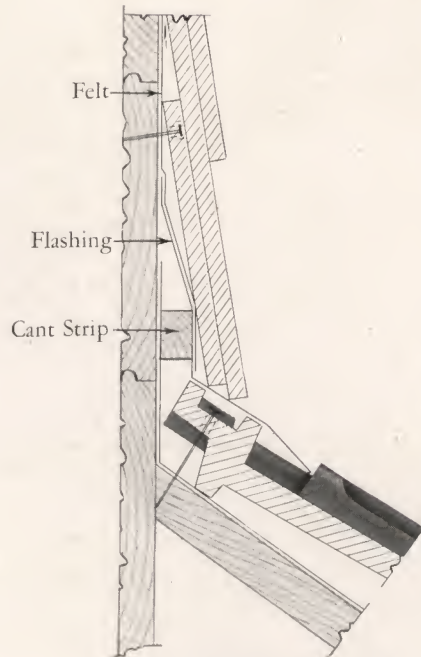
Cross section through hip showing
application of No. 102 Hip Roll and
pointing of Cut Hips with elastic
cement.



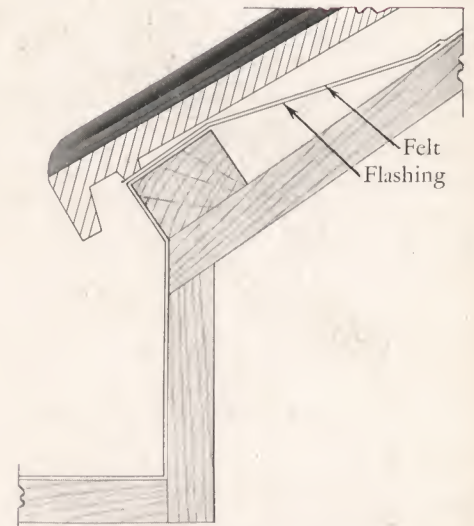
Side elevation showing
Right Gable Rake.



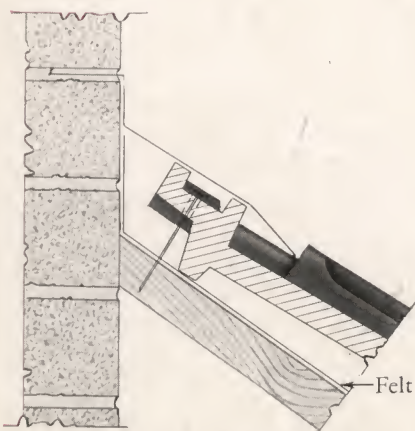
Cross section through ridge showing
application of No. 206 Ridge.



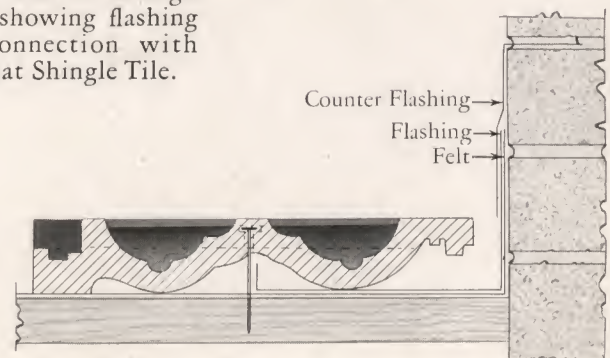
Cross section through
roof showing flashing
in connection with
 $\frac{3}{8}$ " Flat Shingle Tile.



Cross section through eave
showing gutter construction
and application of cant strip.



Cross section through roof
showing flashing over top
of tile against brick wall.

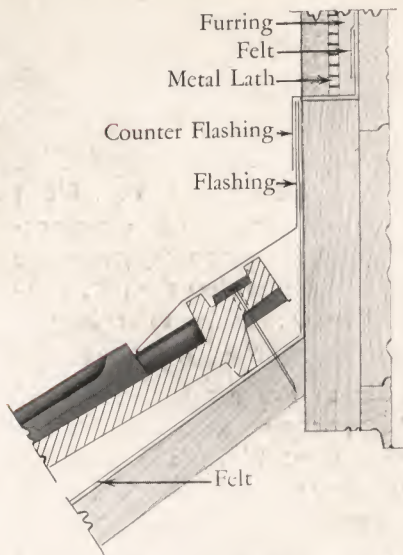


Longitudinal section through roof
showing flashing of side of tile against
brick wall.

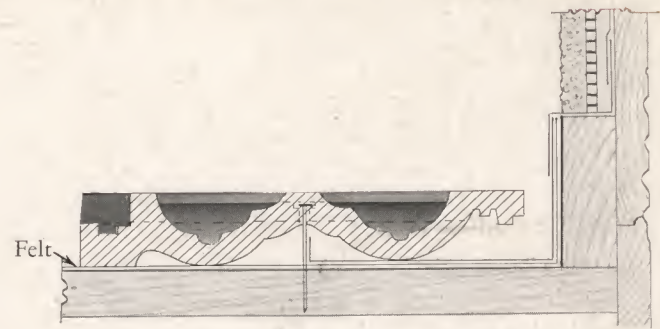
Height of hip and ridge stringer varies according to roof pitch.
Additional details of construction shown on page 35.

SCALE 3"=1' 0"

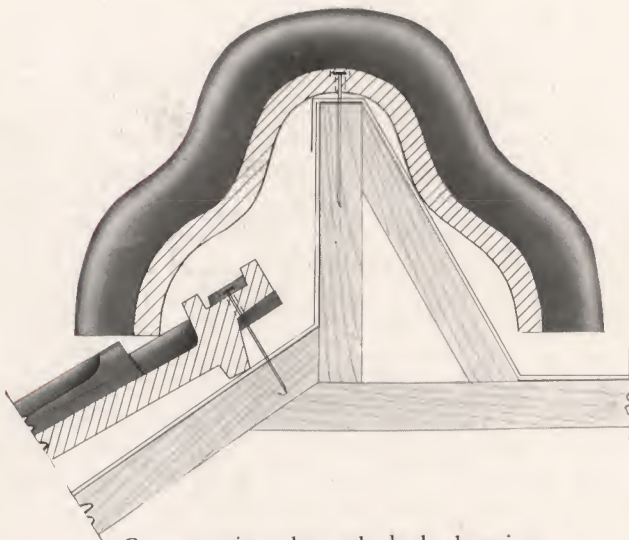
DETAILS OF "IMPERIAL" FRENCH TILE AND FITTINGS



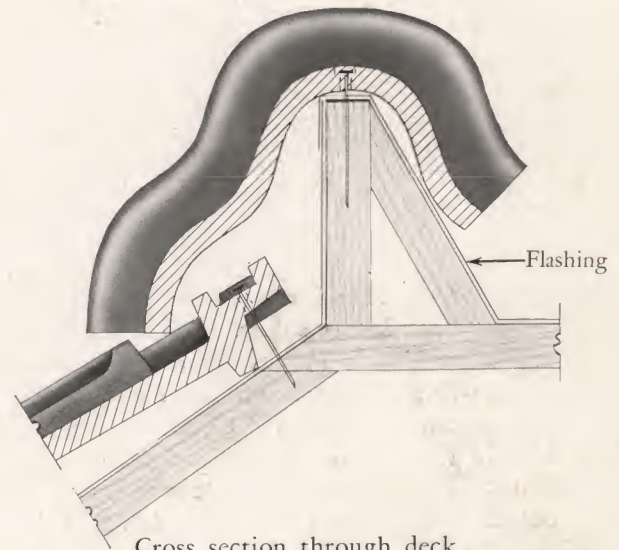
Cross section through roof showing flashing over top of tile against stucco wall.



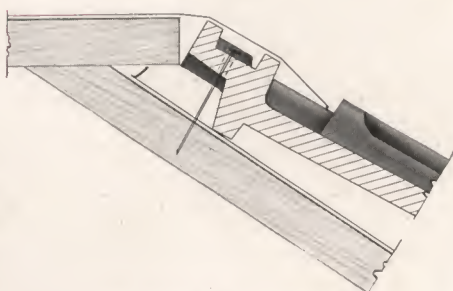
Longitudinal section through roof showing flashing of side of tile against stucco wall.



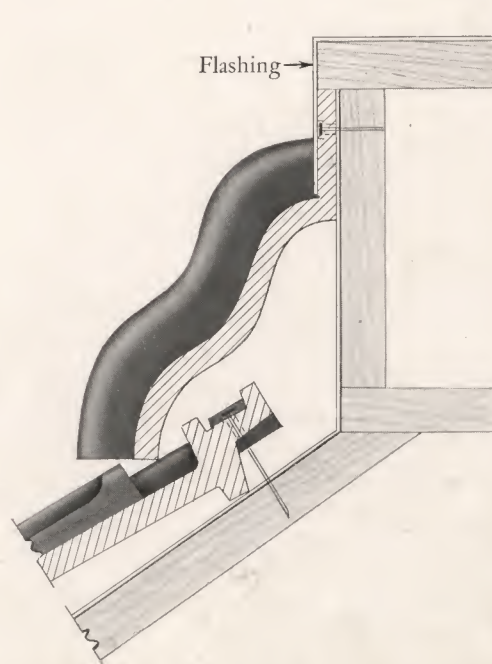
Cross section through deck showing application of No. 206 Ridge.



Cross section through deck showing application of No. 206 Cut-off Ridge.



Cross section through deck showing flashing over top of tile.



Cross section through deck showing application of No. 206 Deck Mould-Raised Flange.

Height of ridge stringer for all types of deck construction varies according to roof pitch.

Flashing at valley is the same as that detailed for Spanish Tile on page 12.

SCALE 3"=1' 0"

"IMPERIAL" CLOSED SHINGLE TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" Closed Shingle Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Cut Valley to be cut to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped $2\frac{1}{2}$ " horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with $\frac{1}{4}$ " edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under tile not less than 4" and turn up edge $\frac{1}{2}$ ". At lower side of

dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines, with 3" lap, properly fitted together and fasten with $1\frac{3}{4}$ " copper nails. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with $2\frac{1}{2}$ " copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

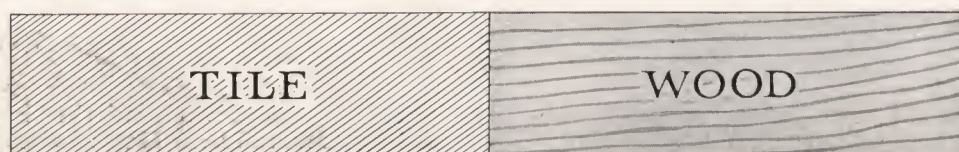
If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

Average exposure 8" width by 8" length.
Weight per square, including average fittings, 1000 lbs.
Average pieces per square, 225.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
No. 118 Hip Roll.....	37	No. 211 Deck Mould-Raised Flange.....	38
No. 168 Hip Starter.....	37	No. 211 Closed Ridge End.....	38
No. 211 Ridge.....	38	Plain Terminal 2H and 1R.....	38
No. 211 Cut-off Ridge.....	38	Other fittings.....	37

KEY TO MATERIALS



Details of construction shown on page 39.

"IMPERIAL" CLOSED SHINGLE TILE AND FITTINGS



Section



Section



Perspective

END BAND OR HALF TILE

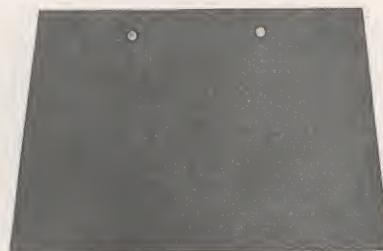


Section

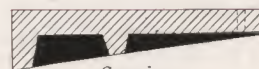


Perspective

UNDER EAVE



Plan



Section



Perspective

DETACHED GABLE RAKE—RIGHT



Side



End



End view of
Left Gable Rake.



Perspective

A right is used on right side of roof from the viewpoint of one facing the eave.

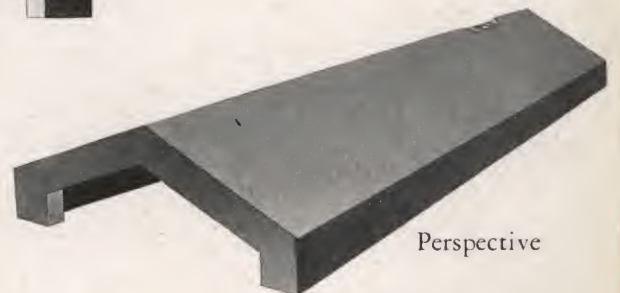
No. 118 HIP ROLL



Side



End

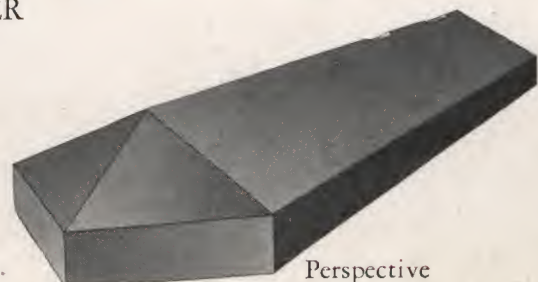


Perspective

No. 168 HIP STARTER



Side



Perspective

For other fittings see page 36.

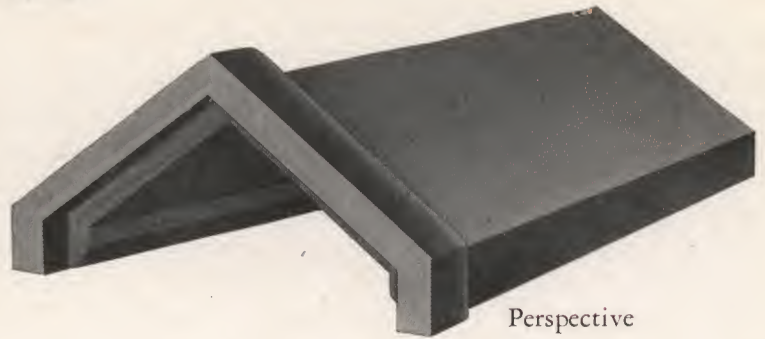
SCALE 3"=1' 0"

"IMPERIAL" CLOSED SHINGLE TILE FITTINGS

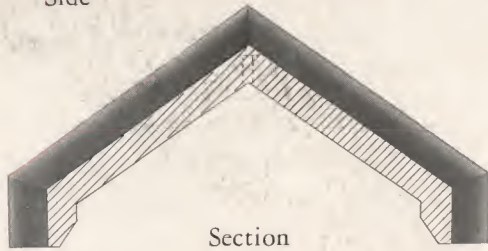
No. 211 RIDGE



Side



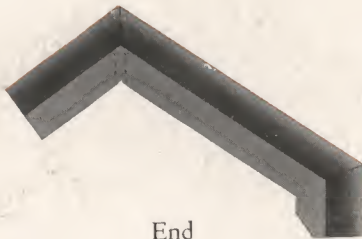
Perspective



Section

This Ridge cannot be used on steeper pitched roofs than 52 degrees unless proper provision is made.

No. 211 CUT-OFF RIDGE



End



Perspective

No. 211 DECK MOULD-RAISED FLANGE



End



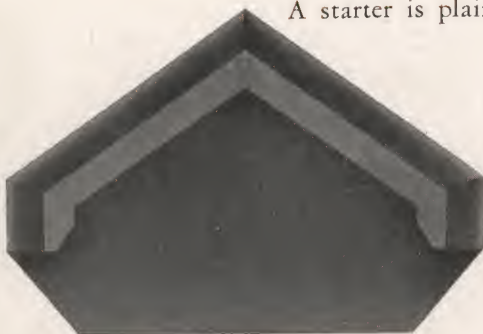
Side



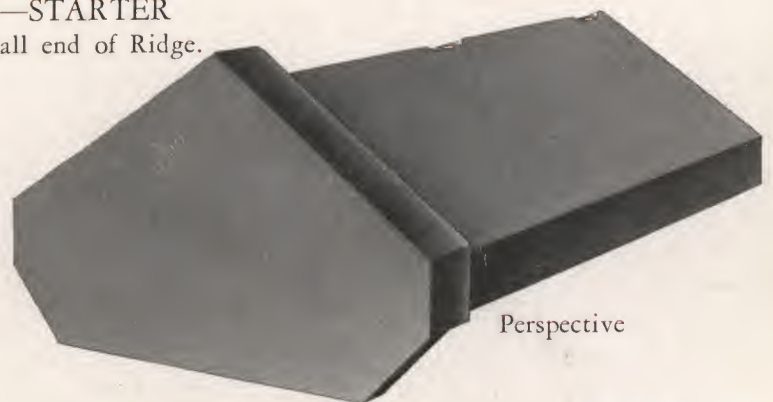
Perspective

No. 211 CLOSED RIDGE END—STARTER

A starter is plain on open end as on small end of Ridge.



End



Perspective

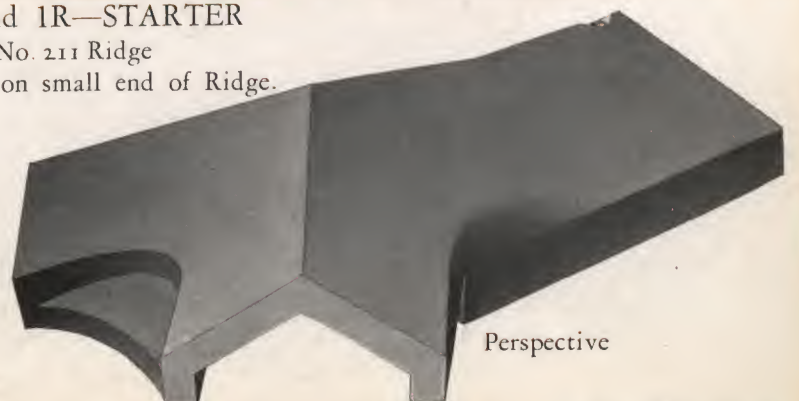
PLAIN TERMINAL 2H and 1R—STARTER

For No. 118 Hip Roll and No. 211 Ridge

A starter is plain on open end as on small end of Ridge.



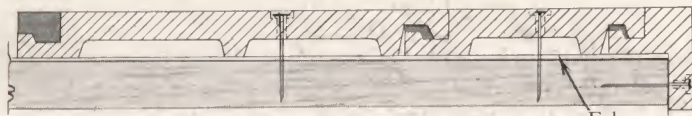
End



Perspective

SCALE 3"=1 0"

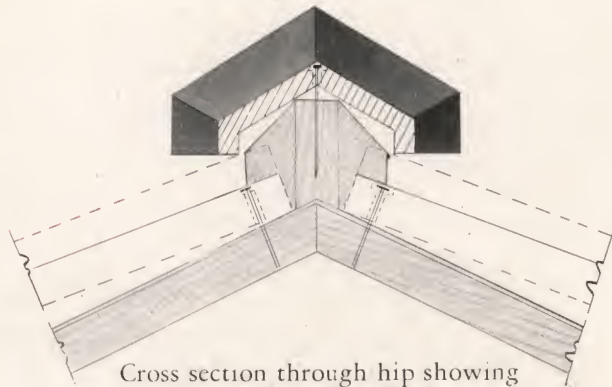
DETAILS OF "IMPERIAL" CLOSED SHINGLE TILE AND FITTINGS



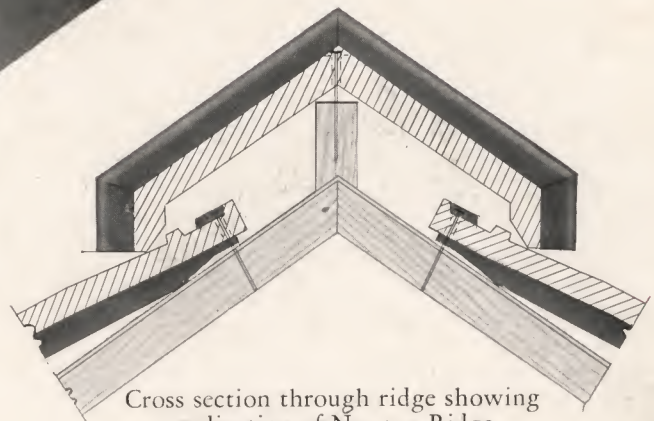
Longitudinal section through roof showing Right Gable Rake and End Band.



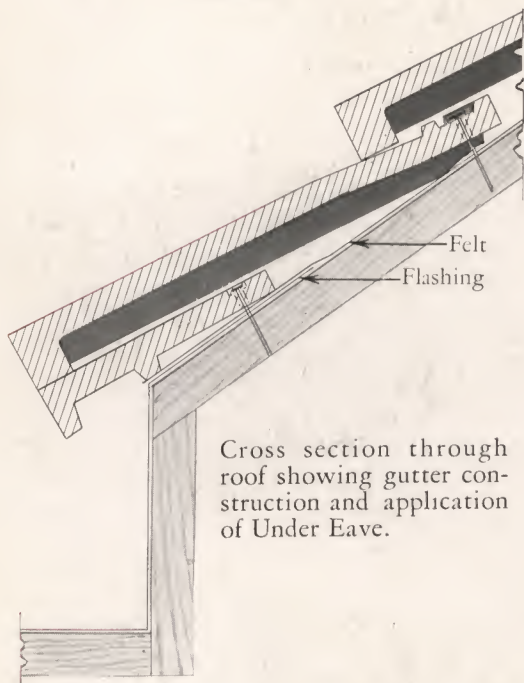
Side elevation showing Right Gable Rake.



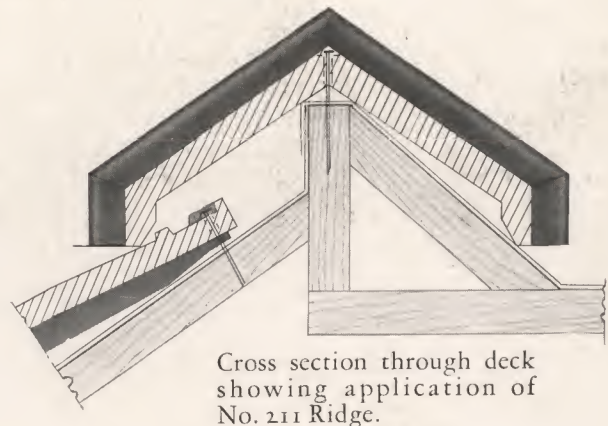
Cross section through hip showing application of No. 118 Hip Roll and pointing of Cut Hips with elastic cement.



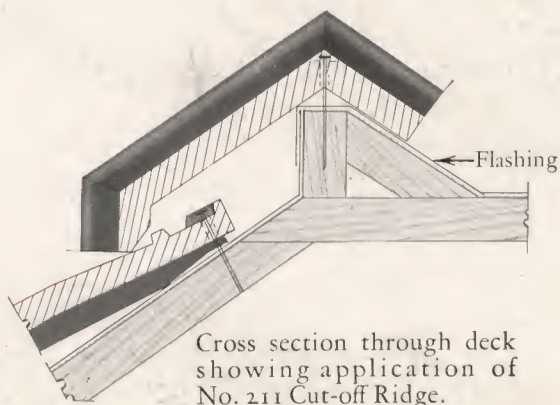
Cross section through ridge showing application of No. 211 Ridge.



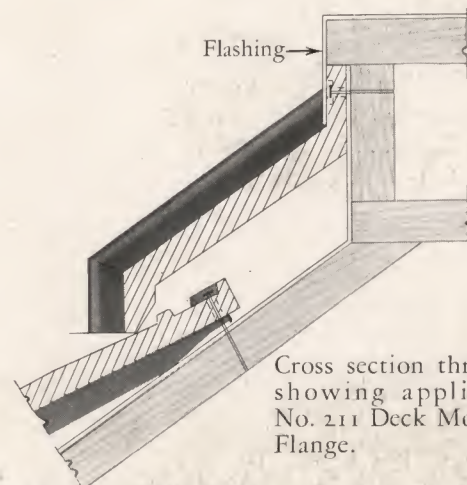
Cross section through roof showing gutter construction and application of Under Eave.



Cross section through deck showing application of No. 211 Ridge.



Cross section through deck showing application of No. 211 Cut-off Ridge.



Cross section through deck showing application of No. 211 Deck Mould-Raised Flange.

Height of stringer for hip, ridge and all types of deck construction varies according to roof pitch.

Flashing at wall and flush deck is the same as that detailed for French Tile on pages 34 and 35.

Flashing at valley is the same as that detailed for Spanish Tile on page 12.

SCALE 3"=1' 0"

"IMPERIAL" ENGLISH SHINGLE TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" English Shingle Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Cut Valley to be cut to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches) laid parallel to eave and ridge, lapped 2 1/2" horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge and 3/8" x 1" cant strips at eave. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with 1/4" edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. Extend flashing at dormers, chimneys and other side walls up the vertical surfaces not less than 6" and thoroughly counterflash. Extend such flashing under tile

not less than 4" and turn up edge 1/2". At lower side of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 3" lap, properly fitted together and fasten with 1 3/4" copper nails. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with 2 1/2" copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

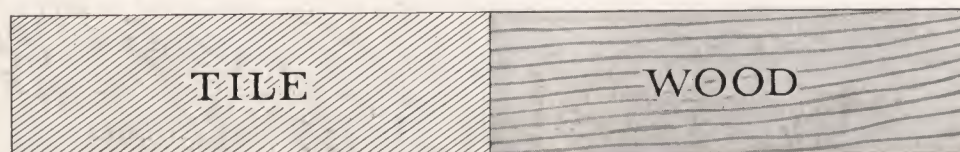
Average exposure 7 3/4" width by 10 1/8" length.
Weight per square, including average fittings, 1100 lbs.
Average pieces per square, 184.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
No. 120 Hip Roll	41	No. 211 Deck Mould-Raised Flange	38
No. 170 Hip Starter	41	No. 211 Closed Ridge End	38
No. 211 Ridge	38	Plain Terminal 2H and 1R	38
No. 211 Cut-off Ridge	38	Other fittings	41

No. 118 Hip Roll and No. 168 Hip Starter as detailed on page 37 are also used with this pattern.

KEY TO MATERIALS

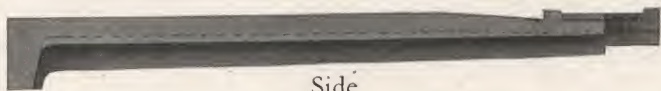


Details of construction shown on page 42.

"IMPERIAL" ENGLISH SHINGLE TILE AND FITTINGS



Section



Side



Perspective

END BAND OR HALF TILE



Section



Perspective

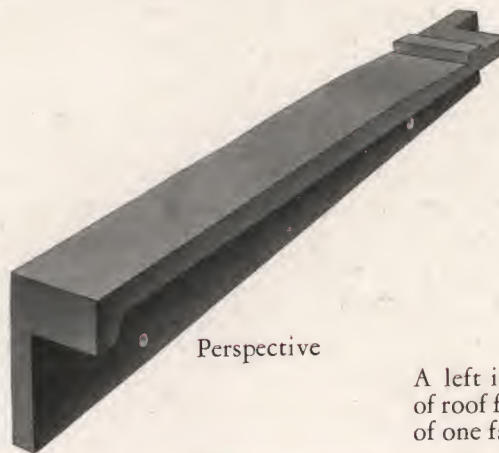
DETACHED GABLE RAKE—LEFT



End



Side



Perspective



End view of Right Gable Rake.

A left is used on left side of roof from the viewpoint of one facing the eave.

No. 120 HIP ROLL



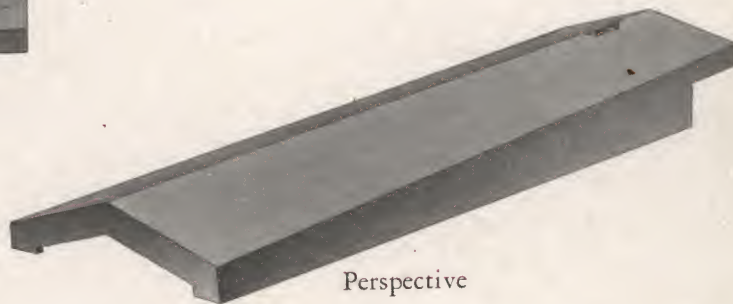
Side



Large End



Small End

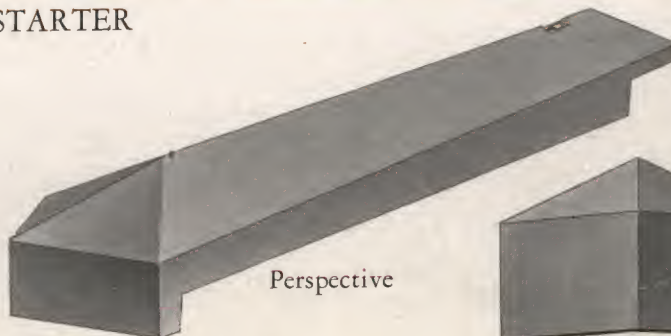


Perspective

No. 170 HIP STARTER



Side



Perspective

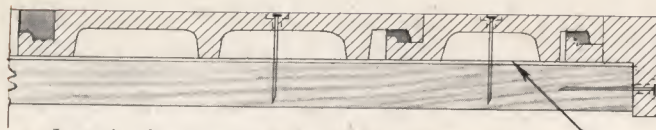


End

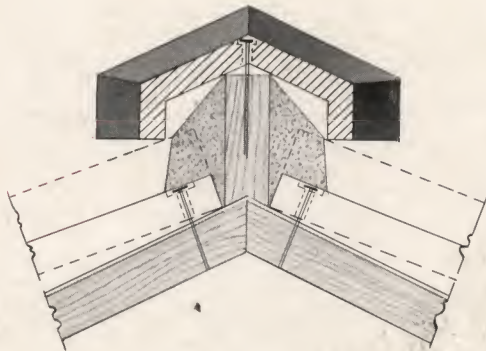
For other fittings see page 40.

SCALE 3"=1' 0"

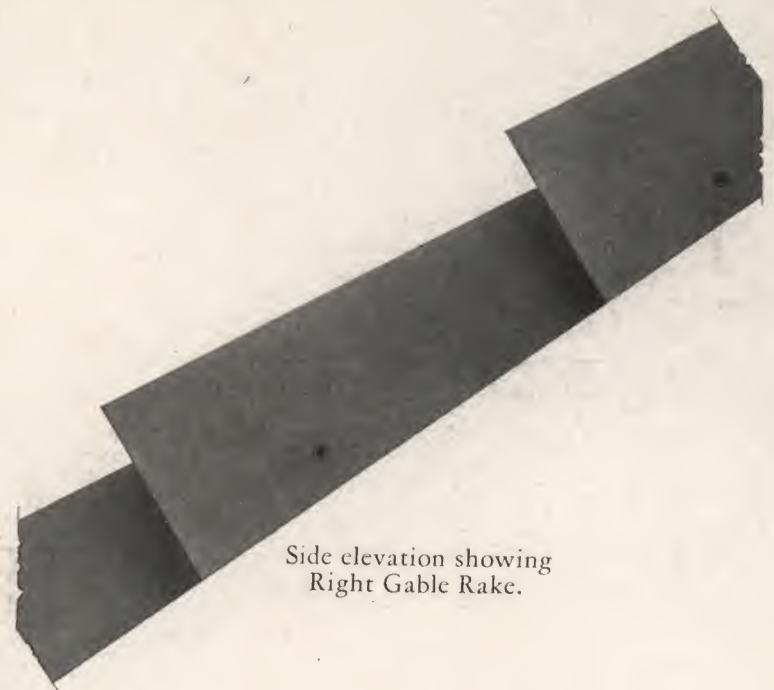
DETAILS OF "IMPERIAL" ENGLISH SHINGLE TILE AND FITTINGS



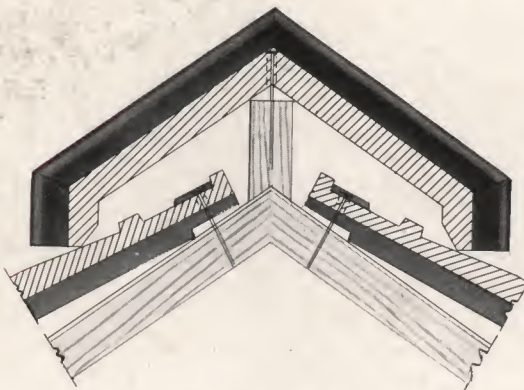
Longitudinal section through roof showing Right Gable Rake and End Band.



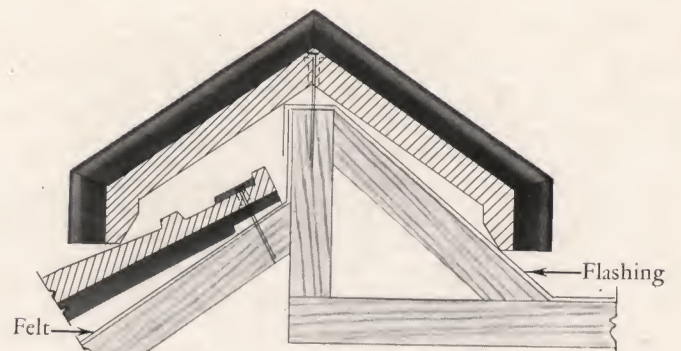
Cross section through hip showing application of No. 120 Hip Roll and pointing of Cut Hips with elastic cement.



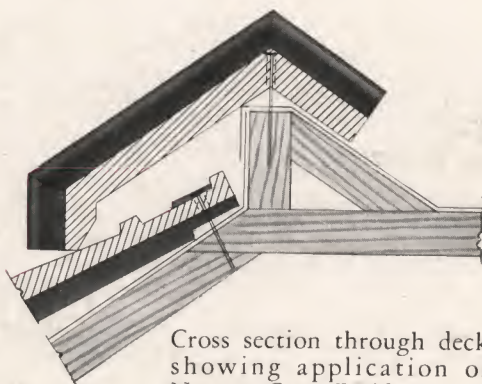
Side elevation showing Right Gable Rake.



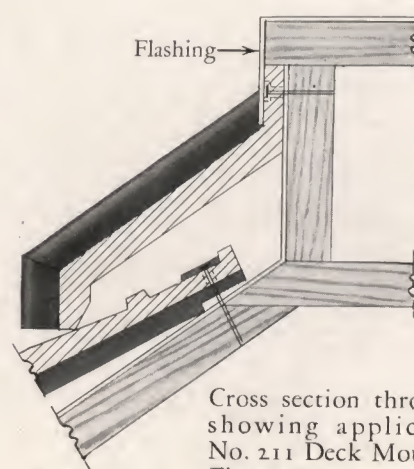
Cross section through ridge showing application of No. 211 Ridge.



Cross section through deck showing application of No. 211 Ridge.



Cross section through deck showing application of No. 211 Cut-off Ridge.



Cross section through deck showing application of No. 211 Deck Mould-Raised Flange.

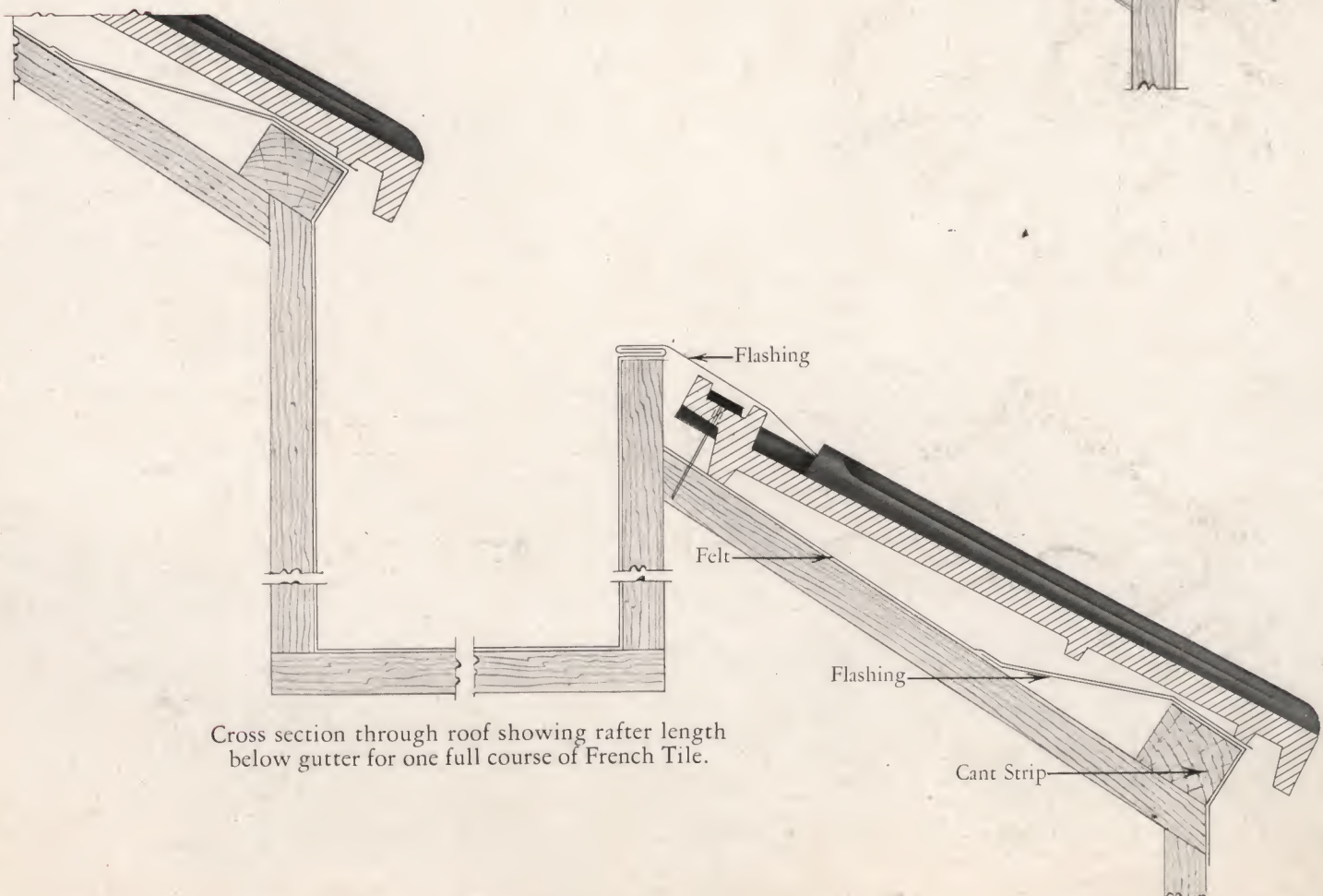
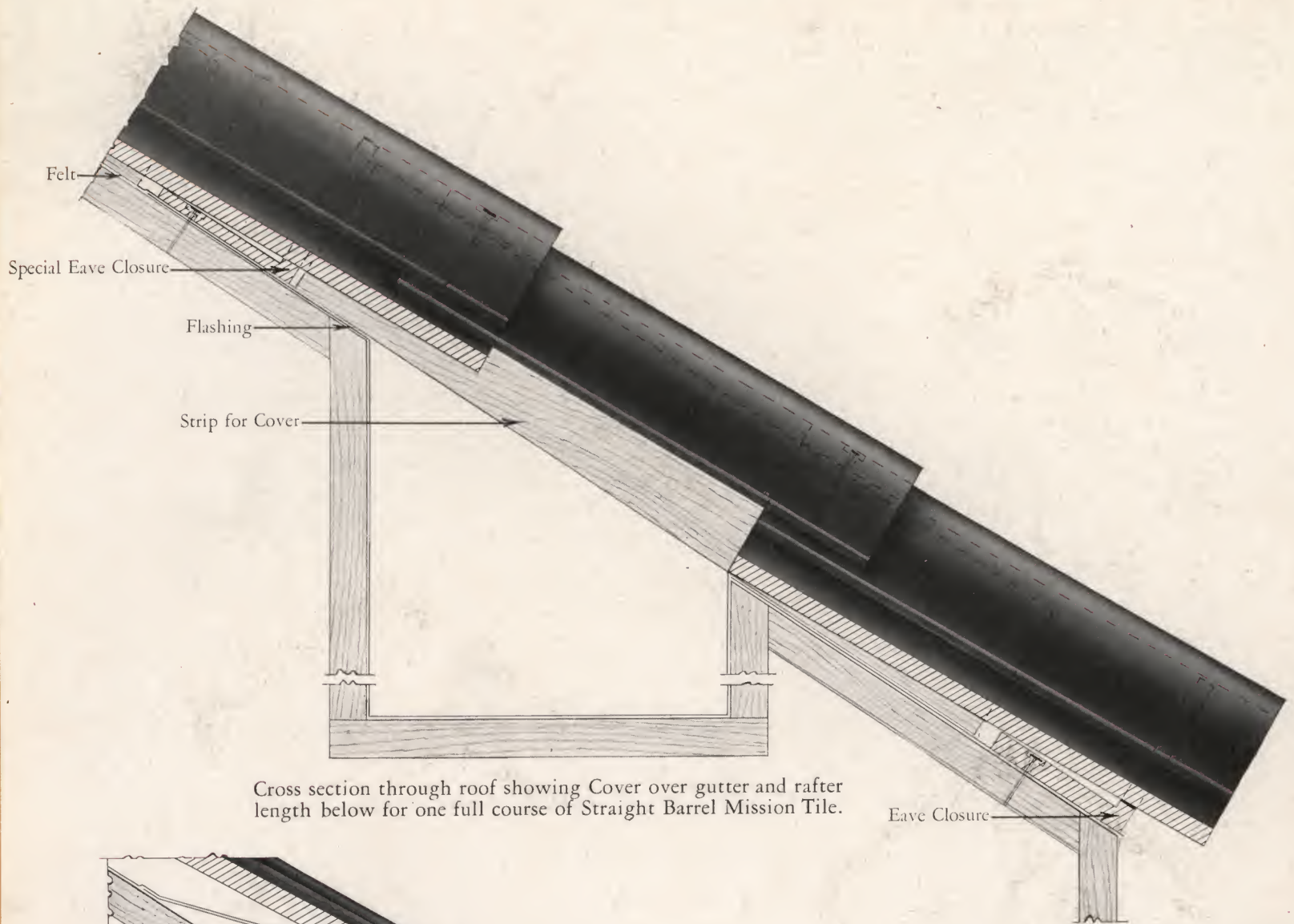
Height of stringer for hip, ridge and all types of deck construction varies according to roof pitch.

Flashing at gutter, wall and flush deck is the same as that detailed for French Tile on pages 34 and 35.

Flashing at valley is the same as that detailed for Spanish Tile on page 12.

SCALE 3"=1' 0"

DETAILS OF CONCEALED GUTTERS



SCALE 3"=1' 0"

"IMPERIAL" 5/8" SLAB SHINGLE TILE

SPECIFICATION

TILE ROOF: Cover all pitched roofs with "Imperial" 5/8" Slab Shingle Machine Roughened Roofing Tile, made by Ludowici-Celadon Company, with stock fittings. Cut Hip and Cut Valley to be cut to correct angle before burning. Tile as specified must be hard burned and of color as selected by architect.

PREPARATION OF ROOF: Other contractors must complete carpentry, masonry, plumbing and all other work above roof line before the application of roofing material is started.

FELT: Cover all pitched roofs under tile with best quality asphalt felt weighing not less than 30 lbs. per 100 square feet (40 lbs. on low pitches), laid parallel to eave and ridge, lapped 2 1/2" horizontally, 6" vertically, carried up 6" against all vertical walls, 4" over gutter and valley metal and fasten with "Simplex" or large headed nails.

WOOD STRIPS: Apply on hips and ridges 1" wood stringers of proper height to carry Hip Roll and Ridge and 3/4" x 1" cant strips at eave. All strips to be furnished by general contractor and applied by his men under direction of roofer.

METAL FLASHING: Line all valleys with 16 oz. copper, usually 20" in width for short valleys, 24" for long valleys (wider where necessary), with 1/4" edge turned over and fastened with cleats. Lap joints 4" (more where required) but do not solder. Underlay all valley metal with full width 30 lb. felt. Where gutter metal extends upon roof, it must be brought up to a point above gutter level. At dormers, chimneys and other side walls flash each course of tile separately, flashing to extend 4" under tile and 6" up wall with 3" lap. At lower

side of dormers, chimneys and other walls insert copper flashing into wall and extend over tile not less than 4". Wood saddles and returns must be lined with 16 oz. copper extending upon sloping roofs not less than 12" (more where necessary) and up vertical walls not less than 6", thoroughly counterflashed. All counterflashing to be plugged, pointed and made secure.

TILE LAYING: Lay tile to straight horizontal and vertical lines with 2" lap on the third course and fasten with 1 3/4" copper nails. Where tile joins hip stringer, make a thoroughly water proof joint with good quality elastic cement. Fasten Hip Roll with 2" copper nails and cement them where they lap. Fasten Ridge with 2 1/2" copper nails and cement them at joints where they lap and where they rest on roof tile.

There must be an opening of not less than 6" (more where necessary) in all valleys. Keep valley tile in straight line. Fasten small pieces with copper wire and elastic cement. Nails must not be driven through valley metal or flashing.

The above applies to roof base of wood, Nalcode, sawdust concrete or other nailing compound.

If roof base is of concrete, embed therein 1" x 2" bevelled wood strips, extending from eave to ridge, spaced 20" on centers. Concrete must be smooth and flush with strips. Use felt weighing 50 lbs. per 100 square feet and fasten with lath nailed over embedded strips. Across the lath apply horizontally 1" x 2" wood strips spaced to suit tile and then proceed as directed for a sheathed roof. All these strips to be furnished by general contractor and applied by his men.

Average exposure 6 1/4" width by 5" length.
Made in machine roughened finish only.
Weight per square, including average fittings, 1825 lbs.
Average pieces per square, 461.

SUGGESTED FITTINGS

PATTERN	PAGE	PATTERN	PAGE
No. 118 Hip Roll.....	37	No. 111 Hip Roll.....	52
No. 168 Hip Starter.....	37	No. 161 Hip Starter.....	52
No. 211 Ridge.....	38	No. 203 Ridge.....	53
No. 211 Cut-off Ridge.....	38	No. 203 Cut-off Ridge.....	53
No. 211 Deck Mould-Raised Flange.....	38	No. 203 Deck Mould-Raised Flange.....	53
No. 211 Closed Ridge End.....	38	No. 203 Closed Ridge End.....	53
Plain Terminal 2H and 1R.....	38	Plain Terminal 2H and 1R.....	54

For other fittings see page 45.

KEY TO MATERIALS



Details of construction shown on page 46.

"IMPERIAL" $\frac{5}{8}$ " SLAB SHINGLE TILE AND FITTINGS



Section



Section



Perspective

END BAND OR HALF TILE



Section



Perspective

7" UNDER EAVE



Section



Perspective

6" TOP



Section

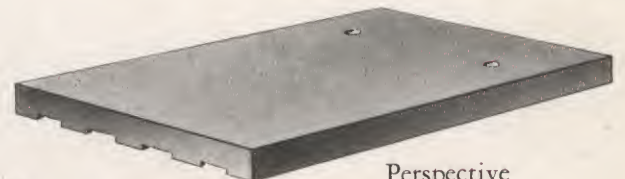


Perspective

9" TOP

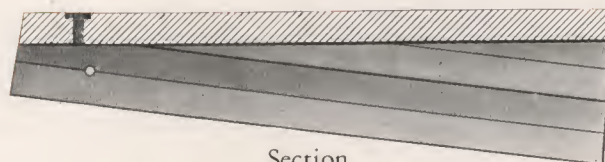


Section

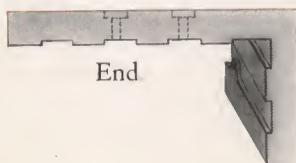


Perspective

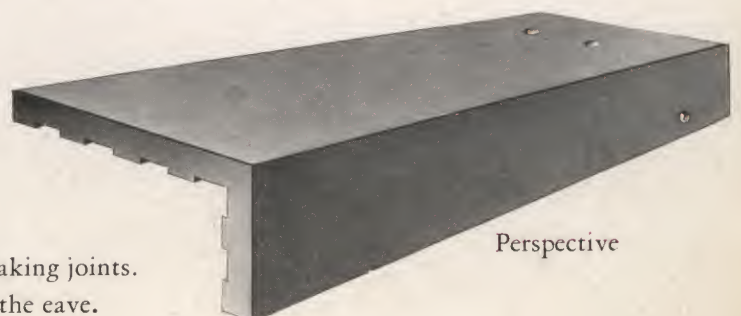
GABLE RAKE, WIDE—RIGHT



Section



End



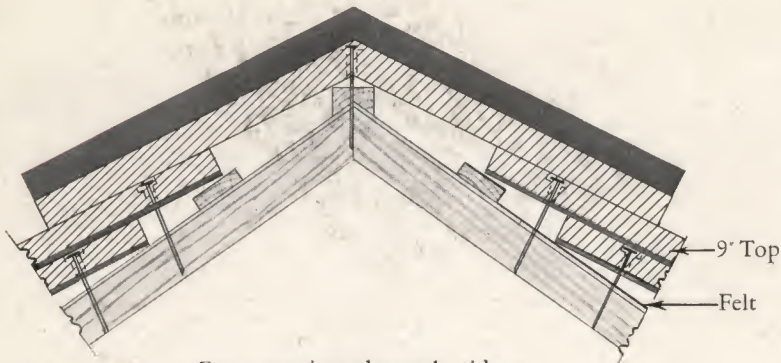
Perspective

Right and left are each made in wide and narrow widths to allow for breaking joints.
A right is used on right side of roof from the viewpoint of one facing the eave.

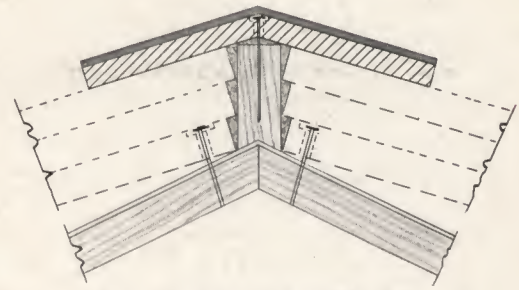
For other fittings see page 44.

SCALE 3"=1' 0"

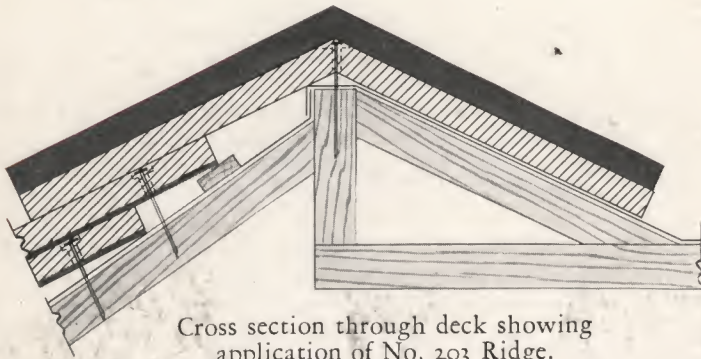
DETAILS OF "IMPERIAL" $\frac{5}{8}$ " SLAB SHINGLE TILE AND FITTINGS



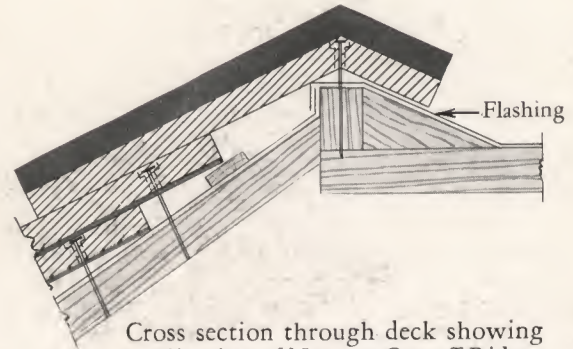
Cross section through ridge showing application of No. 203 Ridge.



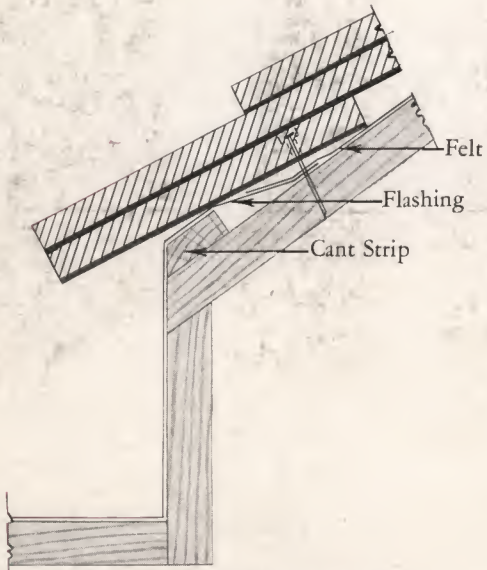
Cross section through hip showing application of No. 111 Hip Roll.



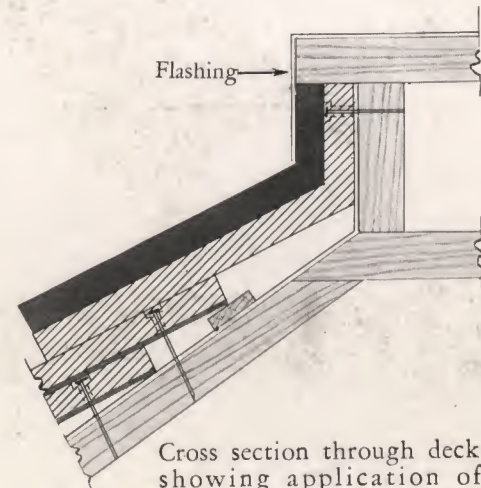
Cross section through deck showing application of No. 203 Ridge.



Cross section through deck showing application of No. 203 Cut-off Ridge.



Cross section through eave showing gutter construction and application of 7' Under Eave.



Cross section through deck showing application of No. 203 Deck Mould-Raised Flange.

Height of stringer for hip, ridge and all types of deck construction varies according to roof pitch.

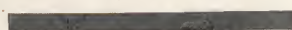
Flashing in connection with top of tile at wall and flush deck is the same as that detailed for French Tile on pages 34 and 35.

Flashing at valley is the same as that detailed for Spanish Tile on page 12.

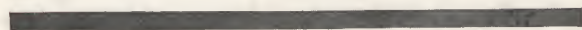
Application of No. 118 Hip Roll and No. 211 Ridge, also deck treatment, is the same as that detailed for Closed Shingle Tile on page 39.

SCALE 3"=1' 0"

"IMPERIAL" 3/8" FLAT SHINGLE TILE AND FITTINGS



End



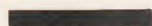
Side

Average exposure 6" width by 5" length.
Weight per square, including average fittings, 1250 lbs.
Average pieces per square, 480.



Perspective

END BAND OR HALF TILE

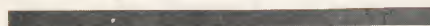


End

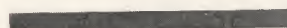


Perspective

9" TOP



Side



End



Perspective

7" Under Eave furnished for pitched roofs.

6" TOP AND UNDER EAVE



Side



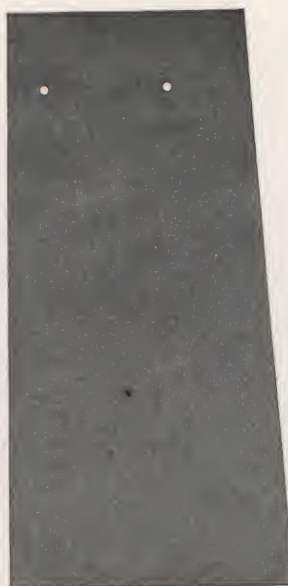
End



Perspective

SIDING CORNER—RIGHT

A right is made with a narrow flange on right side.



Side



Side



Perspective

No. 101 HIP ROLL

Used on dormers with flared corners.



End



Perspective



Side

Details of construction shown on page 48.

"IMPERIAL" 6" x 9" x 1" TILE SLABS

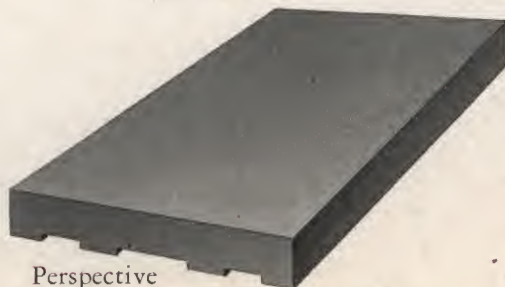
Also made in size 6" x 6" x 1"



End



Side



Perspective

AVERAGE WEIGHT:

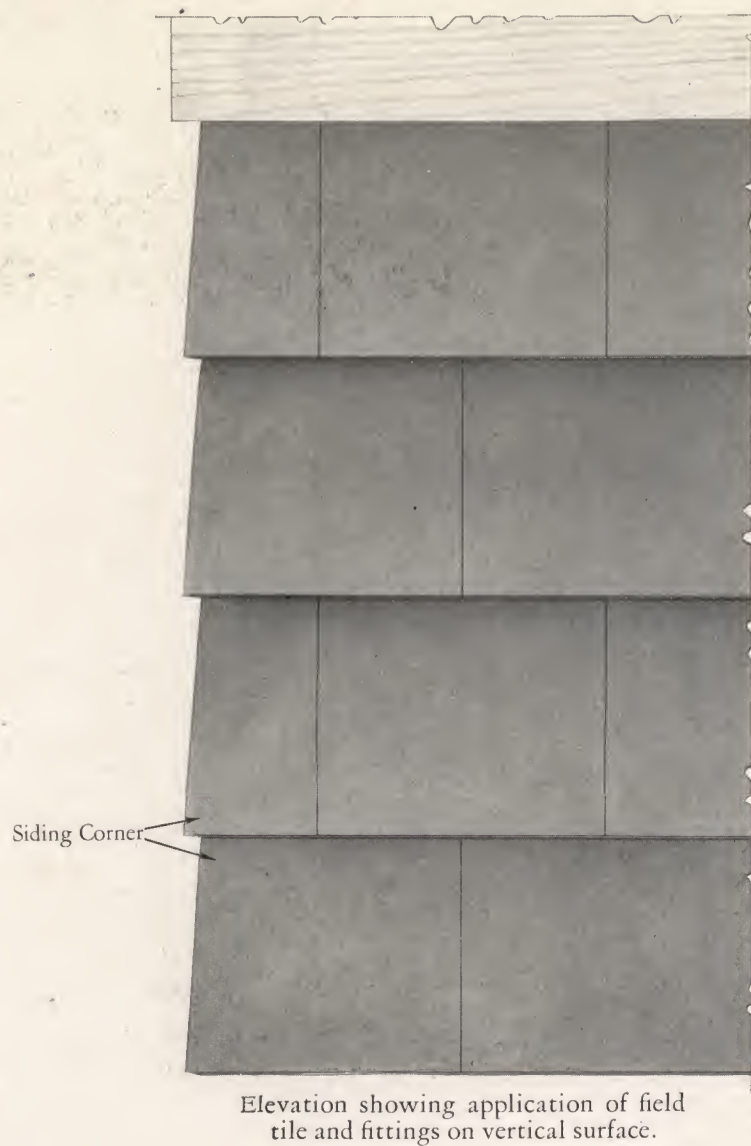
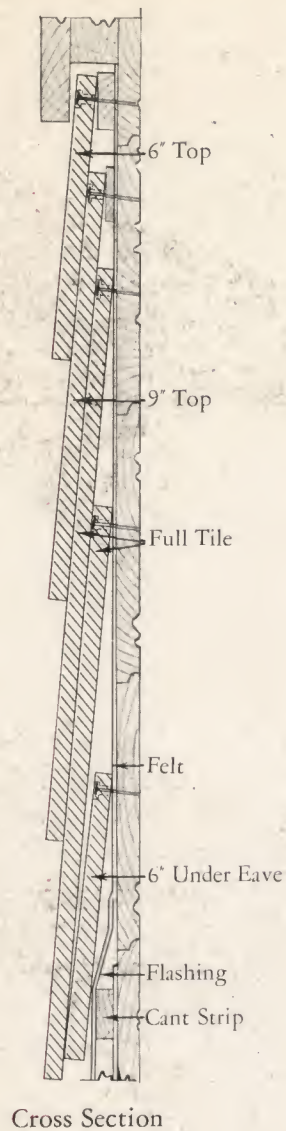
6" x 6" x 1"—2600 lbs. per thousand pieces.
6" x 9" x 1"—4000 lbs. per thousand pieces.

PIECES PER SQUARE

	6" x 6" x 1"	6" x 9" x 1"
With 1/8" Joints.....	384	258
With 1/4" Joints.....	369	250
With 3/8" Joints.....	355	241
With 1/2" Joints.....	341	234

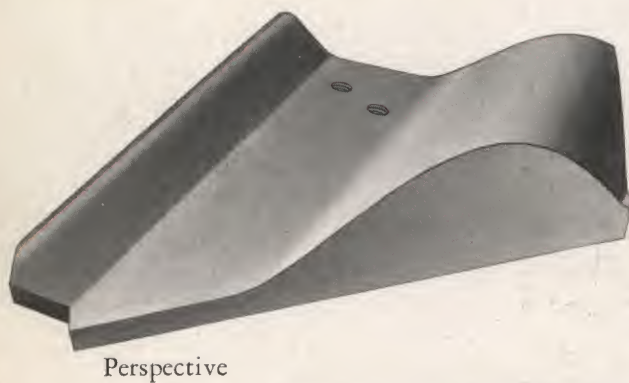
SCALE 3"=1' 0"

DETAILS OF "IMPERIAL" $\frac{3}{8}$ " FLAT SHINGLE TILE AND FITTINGS



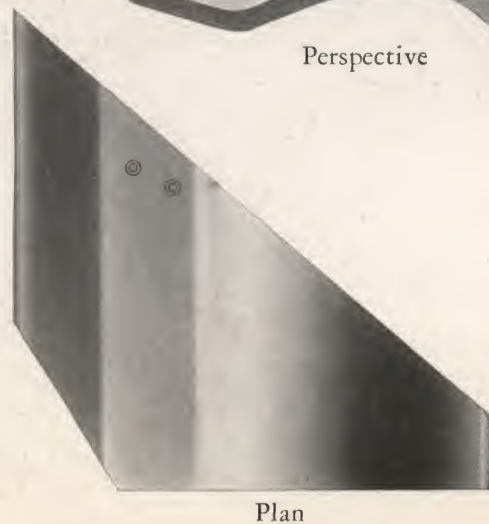
Flashing in connection with Spanish and French Tiles shown on pages 11 and 34, respectively.

"IMPERIAL" SPANISH CLOSED VALLEY—LEFT



"IMPERIAL" SPANISH CUT HIP—LEFT

Left and right for all tile parts are designated from the viewpoint of one standing at eave of roof facing hip, valley or apex.



SCALE 3"=1' 0"

SPECIAL FITTINGS

No. 109 HIP ROLL



Side

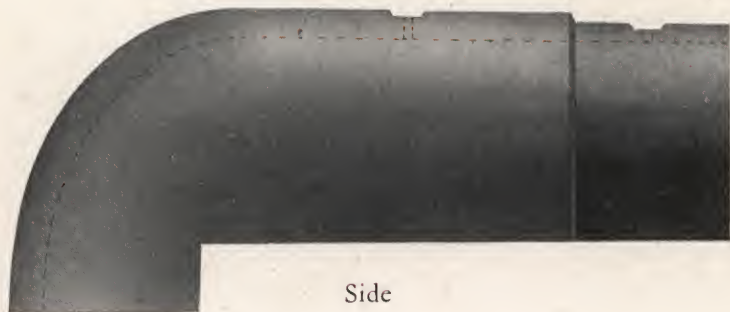


Perspective



End

No. 159 HIP STARTER



Side

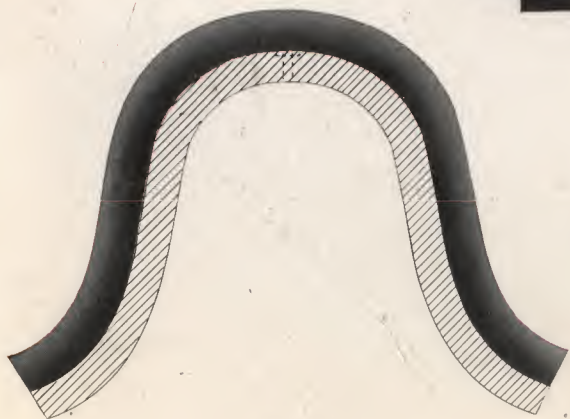


Perspective

No. 213 RIDGE



Side



Section

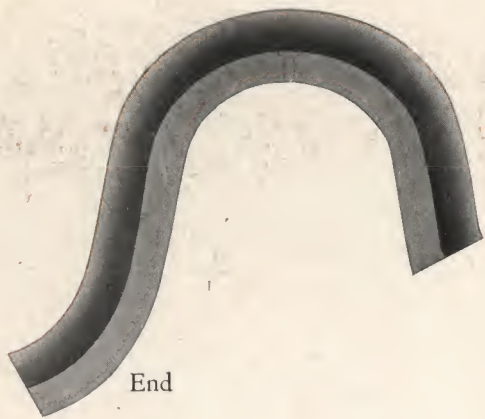


Perspective

SCALE 3"=1' 0"

SPECIAL FITTINGS

No. 213 CUT-OFF RIDGE



No. 213 DECK MOULD-RAISED FLANGE



No. 213 CLOSED RIDGE END—STARTER

A starter is plain on open end as on small end of Ridge.



SCALE 3"=1' 0"

SPECIAL FITTINGS

No. 215 RIDGE



Side



Perspective



Section

This Ridge cannot be used on steeper pitched roofs than 45 degrees unless proper provision is made.

No. 215 CUT-OFF RIDGE



End



Perspective

No. 215 DECK MOULD-RAISED FLANGE



End



Side



Perspective

No. 215 CLOSED END—STARTER

A starter is plain on open end as on small end of Ridge.



End



Perspective

SPECIAL FITTINGS

No. 111 HIP ROLL



Side



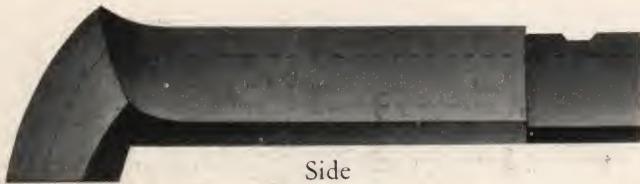
End

Made to fit roof pitch.

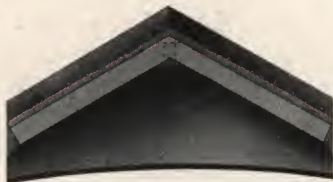


Perspective

No. 161 HIP STARTER



Side



End



Perspective

No. 13 HIP ROLL



Side

Can be used only when pitches of intersecting roof sections are identical.

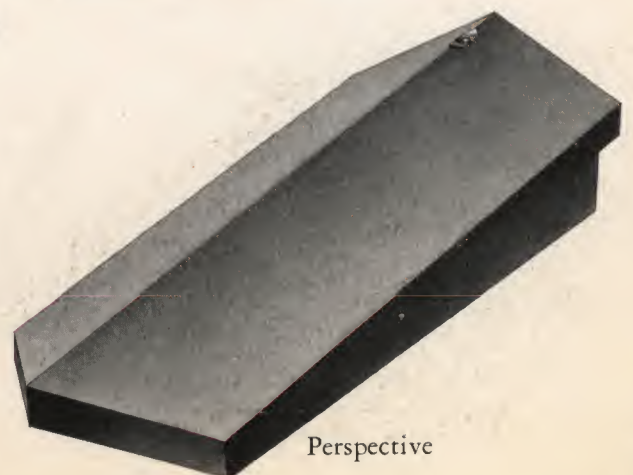


Perspective

No. 13 HIP STARTER



Side



Perspective

SCALE 3"=1' 0"

SPECIAL FITTINGS

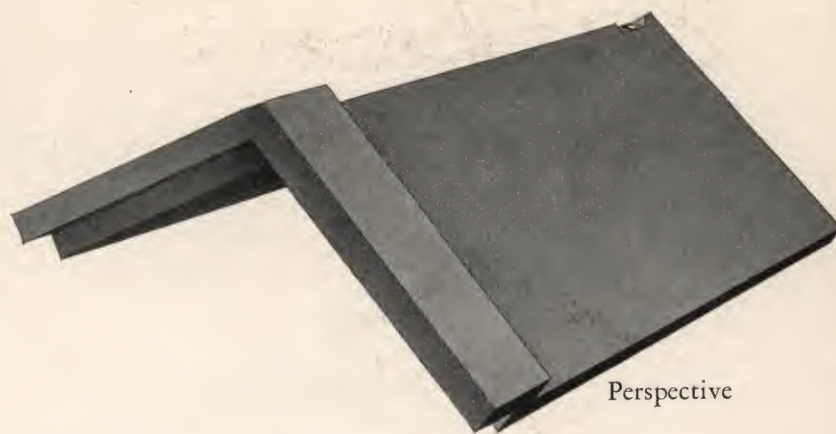
No. 203 RIDGE



Side



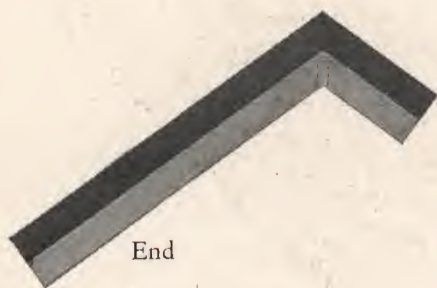
Section



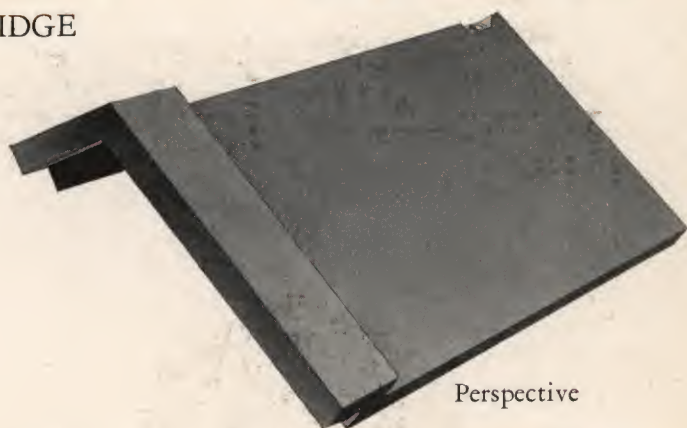
Perspective

Made to fit roof pitch.

No. 203 CUT-OFF RIDGE



End



Perspective

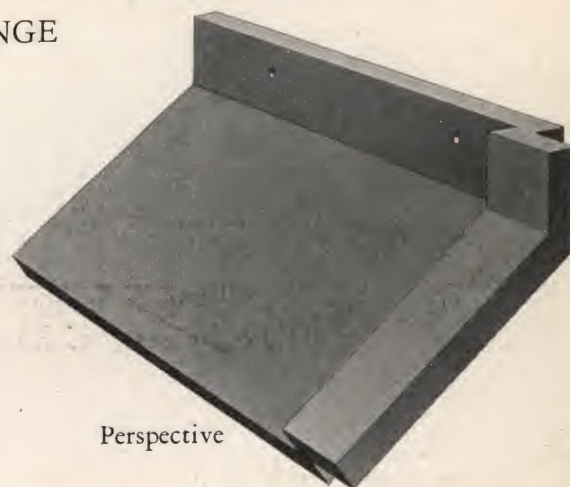
No. 203 DECK MOULD-RAISED FLANGE



Side



End



Perspective

No. 203 CLOSED RIDGE END—FINISHER

A finisher has a flange on open end as on large end of Ridge.



End



Perspective

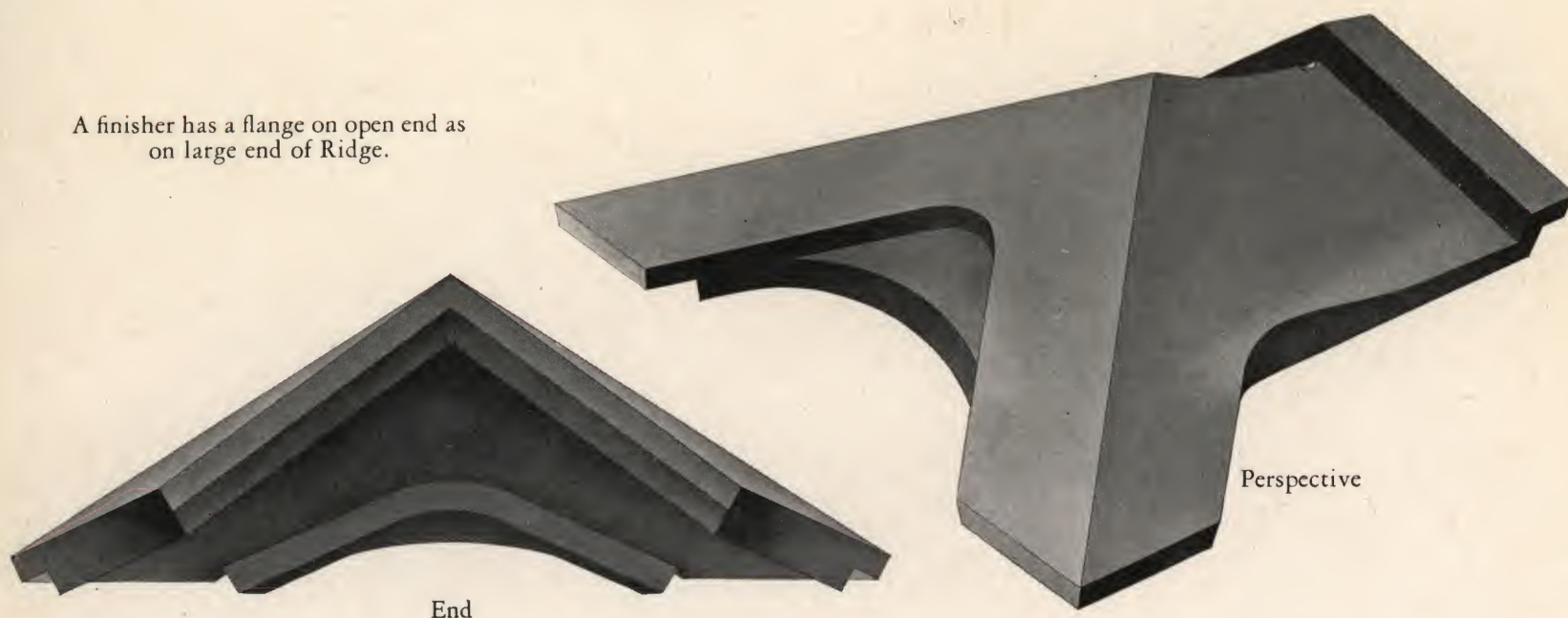
SCALE 3"=1' 0"

SPECIAL FITTINGS

PLAIN TERMINAL 2H and 1R—FINISHER

For No. 13 Hip Roll and No. 203 Ridge.

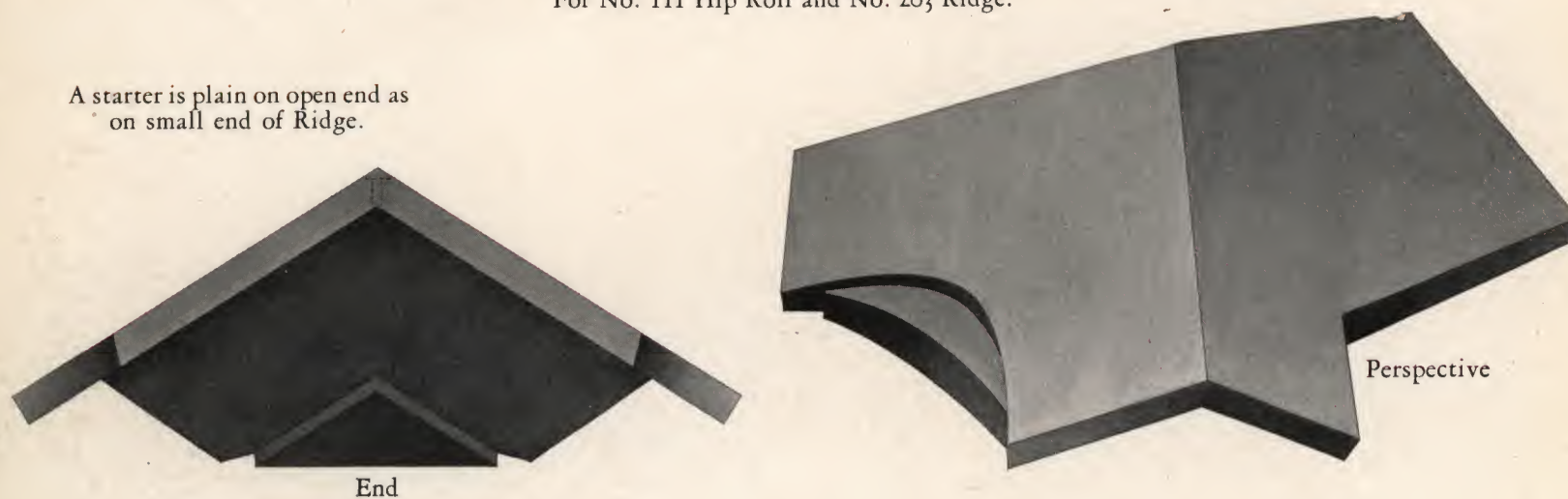
A finisher has a flange on open end as on large end of Ridge.



PLAIN TERMINAL 2H and 1R—STARTER

For No. 111 Hip Roll and No. 203 Ridge.

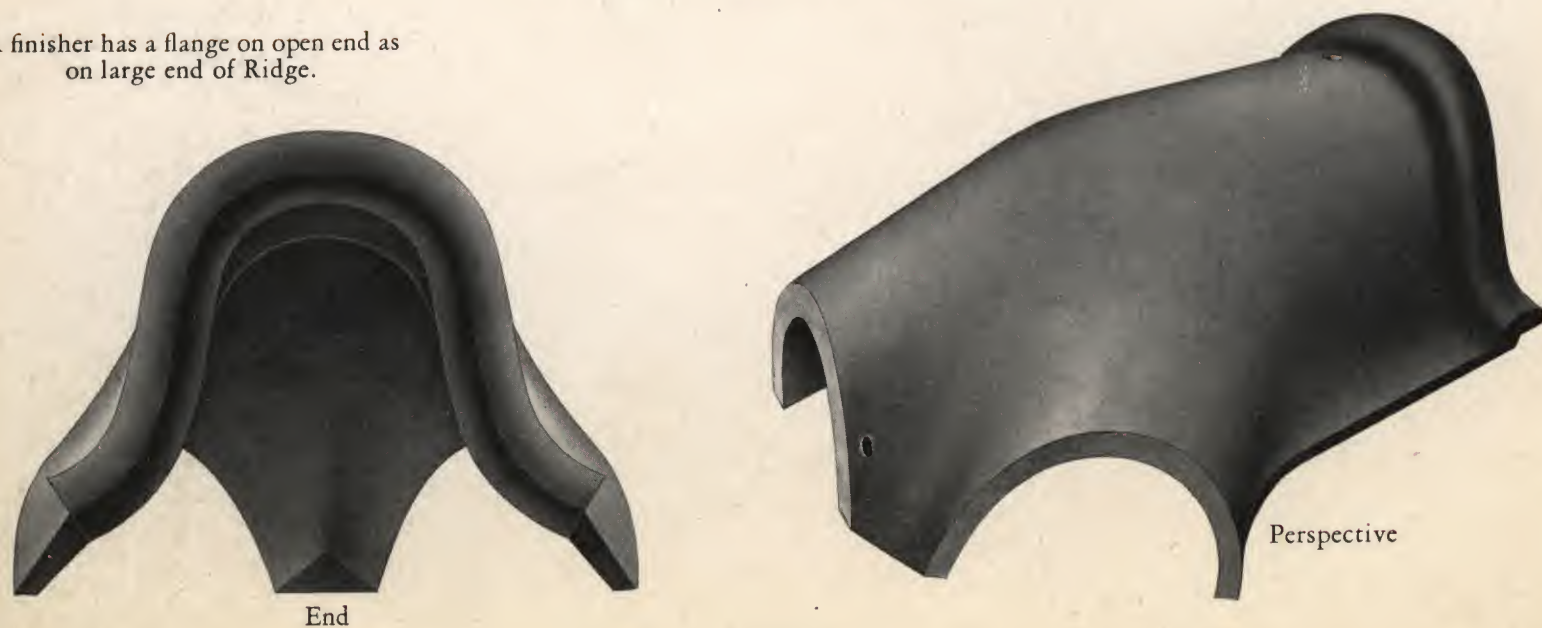
A starter is plain on open end as on small end of Ridge.



PLAIN TERMINAL 2H and 1R—FINISHER

For No. 109 Hip Roll and No. 213 Ridge.

A finisher has a flange on open end as on large end of Ridge.



SCALE 3"=1' 0"

